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OF

PSYCHOLOGY AND PHILOSOPHY.

I.—MR. SPENCER'S *PRINCIPLES OF SOCIOLOGY.**

MR. HERBERT SPENCER has now set himself to "crown the edifice" of Evolutionary Philosophy, the present volume being the first of two devoted to systematising the principles of man's social development. It is to be regretted that weak health has made it expedient for him to publish this first volume in a slightly incomplete state, rather than keep his readers waiting for months till he should be able to add some final pages. Practically, however, this deficiency has no ill effect, for Mr. Spencer's arguments are usually complete so far as they go, and the separate departments of this volume may be criticised without fear of the author's conclusions being altered in later chapters.

In acceding to the wish of the Editor of MIND that I should make such comments as occurred to me on Mr. Spencer's system of Sociology, I do not undertake a formal review of it as a whole. But as a worker for many years on the ground where Mr. Spencer is now engaged, I am desirous of noticing where he has followed lines already traced, where he has gone farther and excavated deeper than those who went before him, and where he has been led, as the ablest men are at times, to waste his labour in blind cuttings. To me such examination is particularly interesting with regard to the chapters occupying about half this volume, in

* *The Principles of Sociology*, by HERBERT SPENCER. Vol. I., 1876. Williams & Norgate.

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which Mr. Spencer treats of the evolution of religious doctrine and worship. These chapters may, I think, be properly described as a new statement, with important modifications and additions, of the theory of Animism which (to pass over less complete statements in previous years) was given by me in summary in the *Journal of the Ethnological Society* for April 26th, 1871, and was worked out with great fulness of detail in my *Primitive Culture*, published in 1871. Stated shortly, this theory is, in the first place, that a conception of the Human Soul is a crude but reasonable inference by primitive man from obvious phenomena. Man has two things belonging to him, his phantom and his life. The human shapes which appear in dreams and visions seem to the savage to be real objects, connected with the bodies whose image they bear, but separable from them so as to be capable of presenting themselves to people at a distance. The life which seems to be present in the active waking healthy living man, but absent or lessened in sleep, lethargy, disease, and death, is also something connected with the body, but separable from it. The outcome of these two sets of considerations is the primitive and savage doctrine of a ghost-soul, which accounts under one head for dreams and visions and for life and death. In the second place, the notion of a ghost-soul as the animating principle in man, being once arrived at, is extended by easy steps to souls of lower animals, and even of lifeless objects, as well as to the general conception of spirits and deities, who are as it were souls of nature, and the belief in whose presence furnishes the savage with a rational explanation of facts and events which require accounting for. On this view of Primitive Animism, the general belief in souls and deities is not ultimately derived from occult tendencies in man or revelations to man, but is based on the philosophy of remote rude ages, whose doctrine has been only more or less modified in modern theologies. It need hardly be said that such a view of the origin of fundamental theological ideas is revolutionary. If it, or anything like it, can be proved to the satisfaction of the educated world to be the true view, then the generally received systems of theology must either be developed into systems more in harmony with modern knowledge, or they must after a time be superseded and fall into decay. It is thus a matter of importance to the world that Mr. Spencer, a philosopher whose systematic thought and persuasive argument act forcibly on the world's opinion, should treat the development of religious ideas on the animistic line. Though he does not adopt the term Animism, his system agrees with it, not merely in some special conclusions, but in its two fundamental positions, the origination of the idea of a human soul and the evolution from this of all other ideas of spirits and

deities. How far his conclusions have been arrived at independently of mine I cannot say, nor is this a matter of much consequence. Indeed it seems to me that, in its main principles, the theory requires no great stretch of scientific imagination to arrive at it, inasmuch as it is plainly suggested by the savages themselves in their own accounts of their own religious beliefs. It is not too much to say that, given an unprejudiced student with the means (only of late years available) of making a thorough survey of the evidence, it is three to one that the scheme of the development of religious doctrine and worship he draws up will be an animistic scheme. But as yet both the evidence and the arguments are very imperfect, and those who agree in the main theory may diverge widely in its subordinate branches. In comparing Mr. Spencer's system with my own, I am naturally anxious to see where the later writer differs from the earlier, and where for the better and where for the worse.

Before entering on the problem of the origin of religion, Mr. Spencer prepares the way by an interesting study of the mental condition of primitive man, whose vagueness of ideas and looseness of reasoning must be taken well into account in investigating ancient phases of theology. Here, however, there already comes into view a tendency of the author's for which readers must be warned to make allowance. In dealing with the phrases by which rude races convey their thoughts, he is prone to a tightness of interpretation which their loose, unscientific languages will not bear, and which may give wrong notions of what actually passes in their minds. Thus the following passage is quoted by him (p. 118) as proof of extreme inconsistency in the minds of the natives of Madagascar—"In almost the same breath, a Malagasy will express his belief that when he dies he ceases altogether to exist . . . and yet confess the fact that he is in the habit of praying to his ancestors". But even among modern Englishmen we hear it said that "It is all over with poor So-and-so—he is no more—well, perhaps he's better off where he is". We know well enough what is meant by this, and that it really involves no gross inconsistency. Curiously enough, Mr. Spencer has overlooked the fact that the very passage he quotes (which is taken from Ellis's *History of Madagascar*, vol. I., p. 393) is there followed by a sufficient explanation of what the Malagasy actually means. "If asked, were his ancestors not human beings like himself, and did they not cease altogether to exist when they died—how then can it be consistent to pray to them when they have no longer any being, he will answer, 'True, but there is their matoatoa,' their ghost; and this is supposed to be hovering about the tomb when the body

is interred," &c. The whole account goes to prove that the Malagasy really holds his animistic belief about as consistently as do our own theologians. It may here be remarked that the besetting sin of us all who study primitive ideas is to treat the savage mind according to the needs of our argument, sometimes as extremely ignorant and inconsequent, at other times as extremely observant and logical, there being abundant statements of travellers forthcoming which can be used in support of either view. Mr. Spencer, with all his evident desire to be impartial, has not always shaken himself free of this tendency. Thus (in Appendix B) when he is arguing against Prof. Max Müller's views of the sources of myth in the minds of uncultured men, Mr. Spencer insists on their minds being devoid of rational curiosity as to nature, and argues that in early stages the intellectual factor required for myth-making is wanting till long after the ghost-theory has originated a mechanism of causation. In this connection he cites a remark by Dr. Rink as to the Esquimaux, that "existence in general is accepted as a fact, without any speculation as to its primitive origin". Now this is rather hard on the Greenlanders (who are Dr. Rink's Esquimaux), seeing that they not only have a well-developed mythology but a well-developed animistic theology; and in other places (pp. 131, 157, 164, 192, &c.) Mr. Spencer himself cites their notions of dreams, shadows, ghosts, &c., as evidence of the very development of such speculative ideas as he here denies to them. He even attributes to them a philosophical subtlety which seems beyond what they can claim. Referring to their well-known notion that man has two souls, his shadow and his breath, and that the soul goes out hunting and visiting in dreams, he brings in the additional refinement that the shadow, which becomes invisible at night, is that soul which at night wanders away and has adventures. This he states on the authority of Cranz, but it seemed to me too good to be true, and on referring to my copy (the original German edition of 1765) I find that the words of the old missionary do not justify it. On the whole it appears that Mr. Spencer, in handling the evidence of savage ideas, is apt to find the utmost strictness and coherence in their philosophy, while unduly pushing aside proofs of their mythic and poetic fancy, which are really not less forcible.

In carrying on the consideration of the savage state of mind, Mr. Spencer introduces (p. 119) an important element which has hardly been brought into notice before. On few subjects must primitive views of nature have suffered more alteration than as to the possibility of transformation or metamorphosis. The savage watches a cloud drifting away and vanishing in the sky; he sees the stars appear and disappear; flashes of lightning

cross the heavens for an instant and are gone; the raindrops form pools of water which in a few hours gradually depart; shadows and dreams are beheld for a time and then all at once they are not. Growth shows changes hardly less great: from the seed springs the shoot, and then the flower; out of eggs come chicks; the caterpillar turns into the chrysalis and thence issues the butterfly; every carcase and mudbank show spontaneous generation of animals; while fossils seem to prove that animals and plants may be turned into stones. Such phenomena, without the explanation which the world owes to later science, must impress on the uncultivated man a scarcely limited belief in transformation. Thus it does not strike a barbarian as at all incredible that a man should turn into a rock or a tree, or that his personality should become invisible yet still go to and fro, like the wind which he cannot see even when he is struggling in its violent grasp. This argument of Mr. Spencer's will do much to clear a way in the minds of unprepared readers for a fair appreciation of what the belief in spirit-life must mean in savage or primitive thought.

Of even more consequence is the treatment (p. 143, &c.) of the opinion that the primitive mind tends to ascribe life to things which are not living. This is the assumption which lies at the basis of Auguste Comte's famous theory (founded on that of De Brosses in the last century) of Fetishism as the primitive phase of religion, in which man conceived of all external bodies as animated by a life analogous to his own, and accordingly could deify and worship not only animals, but even trees and stones, in fact any object whatsoever. Anthropologists of the present generation owe much to Comte, whose theory of the origin of religion must, however, be displaced by the very inquiries it has led to. Mr. Spencer, as his earlier essays show very fully, was one of those who accepted Comte's doctrine of primitive Fetishism. In the present work, however, not only does he discard Comte's idea of the primitive conception of Fetishism, which he reduces (as I had done) to a secondary development of the doctrine of spirits, but he now attacks Comte's position at its very basis, by disputing the assertion that children do seriously suppose life in the dolls or chairs which they treat as alive in play. This is, as he argues, mere dramatising, and the child would be as utterly astonished as we should be, if the doll were really to bite. Following this up at p. 343, he argues that the primeval man would be as little likely to gratuitously confuse a mere fetish object with a living creature. Mr. Spencer's reasoning is most forcible and will strengthen the position of the doctrine as the underlying cause not only in fetish-worship but in nature-

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worship with its great deities. One may doubt, however, whether he does not go too far in cutting away from primitive life the personifying faculty to which both mythology and religion owe so much. To both the child and the savage, human will is the first-conceived source and reason of action, and the early myth-maker probably found it as easy as a modern child does to invest sun and stars, clouds and rivers, rocks and trees, with a personality drawn from human life. Many readers who go on to find what artificial devices Mr. Spencer is driven to in explaining the origin of nature-myths, will come to the conclusion that his criticism of Comte's doctrine has gone too far in sweeping it away, good and bad together. He has emptied out the bath with the baby in it, as the German proverb says.

It is not necessary to go into details as to the chapters on the origin of the doctrine of the human soul, as founded on a rational interpretation of phenomena such as sleep and dreams, trance and death, &c., except on special points. It is to be noticed that, in stating the effect of dreams in proving to the savage that man has beside his body a second self or soul, Mr. Spencer (p. 151) strengthens the case by pointing out that somnambulism tends to confirm the belief, as proving that men may really go away during their sleep and do the things they dream of doing. Also (p. 154) he draws attention to the effect which a belief in dreams being real events must produce on the uncultivated man's notion of the possibilities of nature. In his dreams he finds himself flying through the air, or sees his companion suddenly turn into a wild beast; thus it is not strange that he should believe that such things really happen in life. I have argued (*Prim. Cul.*, vol. I., p. 496), that the philosophical notion of ideas is directly derived from the savage notion of the souls of animals and things, itself mainly derived from the appearance of their phantoms in dreams. Mr. Spencer (p. 156) goes further, endeavouring to trace from the experience of dreams the development of the whole conception of mind. The primary hypothesis which grew up to account for dreams was the hypothesis of two entities in man; transform the second entity (or soul) by dropping physical characters irreconcilable with the facts, and the modern hypothesis of a mental self or mind becomes established. It is to be desired that Mr. Spencer should expand this daring (but I venture to think highly reasonable) argument beyond its present short statement, and put it in full fighting order to receive the blows which the metaphysicians will aim at it.

The well-known evidence from the beliefs of uncultured

nations is next adduced by Mr. Spencer to show how the savage conception of the soul serves its purpose in accounting for such vital phenomena as trance, lethargy, &c., when the soul is supposed to be out of the body, and for the recovery of the patient to normal life by the soul's supposed return. Death is of course looked on under this animistic theory as the result of the soul's permanent departure. It is to be noticed, however, that Mr. Spencer, in following up the course of these ideas, gives the argument several new turns. The fact of death is not at once certainly apparent even to our modern medical knowledge, and to the savage it must remain doubtful for an indefinite time whether the cessation of vital functions is only a prolonged insensibility, which may be put an end to by the other self or soul returning. To the practices which would arise during this doubtful interval, while the bystanders were still uncertain whether to treat the body as alive or not, Mr. Spencer refers the origin of a number of funeral rites, as where among the Arru (not Assu) islanders, several times during the few days after one has died, they try to make him eat, filling the corpse's mouth with food and arrack till it runs over the floor. That this matter-of-fact proceeding should have been the first stage of the ceremony of offering food to the dead, afterwards carried on less materially in sacrifice, is a suggestion of great interest. That the preservation of the corpse by drying and embalming has often been intended to keep the body for the life or soul to return to, is well known by direct historical evidence. But Mr. Spencer's remarks on the subject make much clearer than heretofore the intimate connection between the primitive notion of death being only a temporary departure of the soul from the body, and the theological doctrine of bodily resurrection, which has been so little affected by the growth in our knowledge of biology and chemistry, that "on 5th July, 1874, the Bishop of Lincoln preached against cremation, as tending to undermine the faith of mankind in a bodily resurrection". To the primitive savage, however, the notion of the corpse being resuscitated a few days hence was a practical probability of present concern, while after many ages the civilised man transferred it into the indefinite future, and it passed into a theological tenet referring to a future life. In connection with the doctrine of bodily resuscitation, Mr. Spencer refers to the well-known savage or barbaric rite of the survivors mutilating themselves as an act of mourning or propitiation, as by cutting off finger-joints, clipping locks of hair, or lacerating themselves to draw blood. It has for many years been well understood by writers on the history of religions, that at least part of these proceedings are sacrifices of a part of

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the mourner's body to represent the whole, and this view Mr. Spencer adopts. But how he makes out (p. 180) that such rites imply the belief in bodily resurrection rather than some more spiritual phase of the belief in future life, does not seem clear, and one would think some part of the argument may have been left out. Passing on (p. 201) to the practices of placing near or burying with the corpse a supply of food, weapons, garments, &c., Mr. Spencer seems to take as their original intention that they were to be materially used by the dead on resuscitation. This must be admitted as at least possible, and indeed the idea, so far as it existed, would serve as a stepping-stone to the more prevalent barbaric intention, that the soul of the dead man should use on his journey to the spirit-world, or after he got there, what may be called the souls of the weapons and garments and other things sacrificed. There is proof enough that this came in at a very early stage of thought, and indeed it seems involved in the common habit of the lower races to break or burn the objects offered, an act which flatly contradicts the idea of the corpse coming to life again and using the things themselves, while it is fully consistent with the idea of dispatching their souls for the use of the man's soul. As for the funeral sacrifice of animals and men with the dead, this is so rational an outcome of the notion of the soul departing from the body at death, that there seems ground for referring it to the fully developed animistic stage. It is indeed a necessary corollary from the primitive dream-theory of souls, that mere things should have souls (object-souls as I have called them), inasmuch as their phantoms actually appear in dreams or visions, as obviously as men's own phantoms. Mr. Spencer of course admits the existence of stages of religion when people not only believed in the existence of souls of men, animals, and things, but when they dispatched all sorts of such souls by funeral sacrifice for the use of the dead man's soul. The question between us is this, that Mr. Spencer brings the notion of wife and slave-sacrifice into close connection with the putting of food or other things to be materially used by the returning dead, while this, it seems to me, is anticipating the actual course of belief. But the subject will require more sifting.

Savage religions, as they assume the existence of the ghosts of the dead who appear to the living in dreams, have to deal with the question where is the land of souls, the abiding-place of these ghosts. This question they answer in a number of ways. Perhaps the most primitive may be that the ghosts continue near the corpse, or hover about among the living, who indeed often desert the house of the dead and leave it to the ghost. But it is also believed by many tribes that the land of souls is

in some distant part of the country, or on mountain-tops or remote islands, or down in some cavernous recess or under-world below the earth, or up in the sky. In fact, the ghost-land is located by the savage theologian in almost every possible region he can think of, and there is some difficulty in assigning the reasons which may have led him to the choice of each. Mr. Spencer's contribution to this subject in several points advances it, but sometimes his suggestions seem less reasonable than those of previous writers. No doubt, for instance, savages who have migrated from some distance often suppose their ghosts to return to the home-land, which thus becomes, in their tradition, the land of souls. But savage tribes, who, it should be remembered, appreciate geographical direction with tolerable accuracy, give accounts of the direction of the spirit-land, which show the insufficiency of any attempt to explain them as due to mere recollection of migration. Mr. Spencer's own instances (p. 221) are enough to prove that he has neglected some important factor in the case. Tribes hardly migrate from the west rather than from the north or south, or from intermediate points such as north-west. Yet of the fourteen localities he gives for the land of souls, seven are in the west against three in the east, three in the north and only one in the south. This does not at all exaggerate the actual preponderance among mankind of the belief that the land of souls or its entrance is in the west where the sun goes down. And if we ask where the sun goes down to, there are plenty of tribes ready with the answer that there is below the earth an under-world into whose cavernous recesses the sun descends. When Mr. Spencer has to account for the world-wide belief in a subterranean Hades peopled by the ghosts of the departed, all he has to offer is the suggestion that it arose from dwelling and burying the dead in caves. This latter idea has been suggested by several writers, and is reasonable enough as an accessory cause of the belief in Hades, but is no more equal to explaining the whole belief in an under-world of the dead, than the notion of migration is equal to explaining why the land of Hades is entered from the west. To understand the mass of different beliefs on this subject, it is necessary to give proper weight to the distinct notions of primitive cosmology, that there is an under-world into which the sun goes down at night, and to this must be attached the natural inference known among the lower races, that in this subterranean Hades the ghosts, invisible in the daytime, have their home, rarely coming up to earth except in the night, when ghosts appear and when the time is for dreams. One cannot but think that Mr. Spencer's omission of these well-known points may be due to a dislike of anything like sun-myth. But such solar ideas, whether belong-

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ing to myth or to rude science, do indisputably arise in the primitive mind, and exercise an influence on the formation of belief which cannot be ignored. Again, some other explanations which Mr. Spencer resorts to seem hardly strong enough to bear the stress laid on them. Thus the practice of burying the dead on mountain-tops is no doubt sometimes connected with the idea of these places being the resort of ghosts (p. 218). But the author goes on to argue (pp. 229-32) that this may have led by confusion of ideas to the notion of the spirit-world being in the heaven itself, so that the mountain-stronghold of a conquering race may have led the inferior tribes around to belief in a heavenly paradise of divine beings, the chief of the tribe being promoted to divine dignity as the thunder-god. Of course there is a possibility of such ideas having sometimes arisen in such ways, but it would require strong evidence to persuade us that mountaineers ever really came to be taken for spirits dwelling in the sky; and it is unfortunate that Mr. Spencer, who offers fair evidence in support of notions comparatively easy of belief, should here draw so largely on his reader's imagination. Before quitting the subject of primitive ideas of a world after death, notice should be taken of an ingenious hypothesis, though this is not the place to discuss it properly on the evidence. It is well known that the religions of numerous nations, savage and cultured, recognise the notion of a river which the departed soul has to cross by bridge or ferry or otherwise, to reach the land of souls on the other side. How did this idea of a river of death occur so often to the savage imagination? Mr. Spencer suggests (p. 224) that it was started among tribes by the tradition of an actual migration from the country of their forefathers. As they had no boats with them, some large river to be crossed was naturally a chief obstacle to overcome, and the re-passing it would be regarded as a chief obstacle on the journey made by the dead back to the home-land of their nation, now become their spirit-land. It is not impossible, he continues, that the conceived danger of this river-crossing may have led to the idea that spirits cannot pass over running streams.

The argument of the present work (ch. xvi., &c.) as to the development in primitive belief, by which the original human ghost-souls gave rise to the class of pervading spirits or demons, runs nearly parallel with my own *(Primitive Culture,* chap. xiv., &c.). A vast proportion of the spirits imagined by men never even lose their original quality of being human ghosts or *manes;* as such they enter or possess men, causing madness, disease, or inspiration, persecuting them or tending them as guardian spirits, killing them or saving their lives. Beliefs ancient and modern in demoniacal possession and beset-

ment, in inspiration by deities and accompaniment by guardian spirits, as well as exorcism and kindred rites resulting from such beliefs, are developed from the primitive animistic conception, and these phantom-beings pervading the universe become the personal causes of events. Thus the spiritual series, beginning with human souls, extends on into other special classes of spirits, of whom some are mere minor demons, angels, elves, &c., while some few rise to the rank of great deities, controlling man and nature. There is no real break in the whole series of conceptions which begins with the human ghost and ends with the highest divinity; nor is there the least difficulty in understanding how the prayer and worship and offering, at first addressed to the human ghost who is propitiated by them in the most absolutely human way, came to be addressed with more or less change of meaning and expansion of ceremonial by the priest to the divinity in his temple. But though the general course of development seems clear enough, there are many open points in the details which will require years of careful study to settle. One part of the matter is brought into new clearness by Mr. Spencer when (p. 272, &c.) he sketches the probable transition from the burial-place, whither the survivors came with food to propitiate the ghost still lingering there, to the stately temple, the abode of a ghost-like deity, who received there his solemn sacrifices. I think, however, that Mr. Spencer scarcely recognises enough the development of the idea of spiritual beings, in which the primary ghost-nature is almost lost, and the demon or nature-spirit assumes an independent character distinct from humanity. Not to dwell on other parts of the exposition, which will be approved as a matter of course by readers who accept the general principles of animistic development, I wish to devote my remaining remarks to two subjects where Mr. Spencer may seem to others, as he does to me, to extend parts of the theory till they stand on unsafe ground. I refer to his scheme of the origin of animal-worship, and of the great polytheistic divinities.

Taking animal-worship in general as a disguised form of ancestor-worship, Mr. Spencer assigns (ch. xxii.) the causes which, in his opinion, have led men to worship such lower creatures. Due importance is given to the effect of beliefs in animal transformation (as in the familiar cases of were-wolves and man-tigers), as also of the doctrine of transmigration of souls into animal bodies, which are often recognised as incarnations of the dead by their frequenting their old homes (as in the case of tame house-snakes thought to be returned ancestors), or by their being found near the burial-place. All this is plain enough, but Mr. Spencer lays much greater stress on another

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cause—the misunderstanding of personal names. A man is called Tiger; he dies, his great-grandchildren hearing from their parents in their rude indefinite phrases the name of this ancestor, suppose themselves to be descended from an actual tiger, and thence arises the belief in a divine tiger-ancestry, and a worship of tigers. Now, though Mr. Spencer seems to have no actual proof that anything amounting to this has ever actually happened, yet it must be allowed that such proof would be difficult to get at. So let us admit at least the possibility of its having sometimes happened, thus accepting it as one of the various mythical processes which may have contributed to animal-worship. But the question is, whether such a possible cause is at all commensurate with the great place in the religion of the world ascribed to it by Mr. Spencer. Look at such a case as that of the Patagonians, divided into animal castes or families, such as the caste of the tiger, the lion, the guanaco, and the ostrich, each of these castes being presided over by a particular deity—its creator. Is it in accordance with probability that such a systematic division should have arisen from chance-misunderstanding of the names of four ancestors, who happened by chance to be provided with convenient names to make up a neat symmetrical set of animal-totems? Moreover, it is not once, but a number of times, and in distant regions of the globe, that such symmetrical sets of clan-names have to be accounted for, as, for instance, among the Bechuanas with their division into the clans of the crocodile, fish, lion, wild vine. This hardly looks like the result of chance verbal misunderstanding of one particular class of personal names, which happened to be taken from animals and plants. The present theory was published by Mr. Spencer in his paper "On the Origin of Animal-Worship" in the *Fortnightly Review*, May, 1870. Mr. A. Lang, in the same periodical, 1873, objected that early man knew too little as to who his progenitors were. It is a point which any ethnologist would notice, that the very tribes most distinguished for their division by animal-totems reckon descent not on the male but on the female side. Thus a North American who belongs to the clan of Wolf, inherited this totem not from his father, or grandfather, or great-grandfather, but from his mother; yet, if a personal name at all, it was a man's and not a woman's. A remark of Mr. Spencer's (p. 667) meets this, though in a way which seems to me to show how artificial his hypothesis is:—"Commonly the names of the clans which are forbidden to intermarry, such as Wolf, Bear, Eagle, Whale, &c., are names given to men; implying, as I have before contended (§ 170-3), descent from distinguished male ancestors bearing those names—descent which, notwithstanding the system of female kinship,

was remembered when there was pride in the connection". For my own part, I cannot think that Mr. Spencer's ingenious guess has solved the mystery which still hangs over the origin of the totem-system, and over that large part of animal-worship which cannot be explained as resulting either from direct worship by savages of powerful, dangerous beasts like the bear or tiger, or from the notion that beasts are transformed men, or inhabited by human souls, or fetishes, or incarnations of other spirits.

Turning now to Mr. Spencer's explanations of the great deities of polytheistic religion, it is well known that many of them simply result from expansion and idealisation of divine ancestors, actual or imagined. Even in our own time, in India or South Africa, the soul of a deceased warrior or sorcerer may pass into a local deity of some importance, and the apotheosis of a Roman Emperor may be paralleled among the modern Polynesians whose kings were talked of with divine attributes even in life, and became great celestial potentates at death. And when barbaric theology works back in imagination to first ancestors, it readily produces for belief and worship such great divine beings as the Unkulunkulu of the Zulus, the Old-old-one, ancestor, god, and creator. Nor is there any difficulty in believing that a real man distinguished for any particular art or power should become a patron-god of his particular department, much as St. Peter is the patron saint of fishmongers. All this is part and parcel of the animistic theory of religion. But Mr. Spencer seems to stretch the principle of deities being actual ancestors deified somewhat far. Thus (p. 417) he treats the Kamchatkan legend of Kutka, maker of heaven and earth and first father of men, as founded on recollection of a real early ancestor. Maybe; but the stories the natives tell of him are mostly the wildest of fables, and it is quite as easy to invent names for the inferred first pair of ancestors, the Adam and Eve of a race, as to remember actual ancestors for many generations. Some cases where Mr. Spencer's view admits of being tested, hardly look encouraging. Thus (p. 313) he treats as a real remembered ancestor the divinity named Quiateot, who the Nicaraguans said sent them the rain, their account of him adding that he is a man and has father and mother, and those dwell where the Sun rises in heaven. If, however, we look at the etymology of the name Quiateot, it is seen simply to mean Rain-god (Mexican *quiahuitl*—rain, *teotl*—god), which much lowers the probability of its having been a real ancestor's name. Mr. Spencer's theory leads him (p. 422) not only to introduce seriously the so-called "historical" Odin, who is written of in the *Heimskringla* as an ancient invader-king and sorcerer in Scandinavia, but he even treats him as the real personage from whom the process of ancestor-worship de-

veloped the Scandinavian deity, Odin the All-father. That is to say, a legend which rests on the authority of a chronicle of the 13th century, and which, from a historical point of view, stands about on a par with the legend of Brutus of Britain, is offered as explaining the existence of a divinity whose real antiquity is shown by his belonging to both the Teutonic and the Scandinavian nations, as far back as there is distinct record of their pantheon, and notwithstanding their long-diverged history and languages. Mr. Spencer here engages his theory in conflict not merely with the speculations of mythologists, but with the canons of sober historical criticism.

A scarcely less weak point, it must seem to many students, is exposed by Mr. Spencer in chap. xxiv., where he constructs a general theory to account for the great nature-gods of polytheism, from misunderstanding of personal names of real ancestors, and other mere verbal misunderstandings which, when repeated on authority, are supposed to have passed into religious beliefs. For instance, people reaching a foreign shore in boats may be called "men of the sea," or by an easy transition, "children of the sea," whence legend may evolve a conception of the Sea itself as a divine parent (p. 395). Or if a tribe migrates from the east and hence comes to be called "children of the sun," this is a source out of which the conception of the Sun as a divine ancestor may arise (p. 406). Or some noted warrior may be called Sun (as Pedro de Alvarado was by the Aztecs from his frank, fair countenance, and golden hair), or a king may be compared metaphorically with the sun, as many indeed have been; and hereby again later generations may be led to believe in a divine Sun or Sun-god. Or when a man is named Dawn (a real instance is given of a New Zealand chief called Heavenly Dawn, from his having been born at sunrise), and such a man becomes noted and traditions of him are handed down in which uncritical savages identify him with the real dawn, then the adventures would be interpreted in such a manner as the phenomena of the dawn made most feasible (p. 399), and thus would be produced one of those legends which mythologists call dawn-myths. Now Mr. Spencer of course never adduces as a cause anything that is actually impossible, and divine myths and beliefs may have at times grown up in such ways. To take the most probable case here given, it is mentioned (p. 394) that the Santals worship as their national god, Marang Buru, the great mountain (the name is misspelt Nurang), and his explanation of this is that the people, who regard the eastern Himalayas as their natal region, have confounded the notion of a mountain being the source of their race with that of a mountain being a personal parent, a divine ancestor. It may be so, though one would like rather stronger

evidence. But when we look at the polytheistic systems of the world at large, it is seen how consistently the same great divinities re-appear among remote tribes; in all quarters of the world are found representatives of the Heaven-god, the Earth-god, the Sea-god, the Sun-god, the Moon-god, the Wind-gods, &c. The question at once suggests itself: Did concatenations of verbal blunders happen scores of times among scores of different nations, so as after all to work round to the simple result that savages and barbarians are apt to recognise among their chief gods certain personal divinities who are attached to or embodied in the great obvious phenomena of nature? I cannot but think that on comparison of the verbal misunderstanding-theory with the facts of polytheism which it has to account for, it will be rejected as having the doctrine of chances against it. To account for the prevalence of polytheistic nature-worship, we must ascribe it to some consistent common cause acting on men's minds. For my own part, I fail to see anything to object to in the ordinary notion that savages do directly personify the Sun or the Sky, the Winds or the Rivers, treating them as great beings acting by will, and able to do good or harm to men. It is the easiest way in which rude minds can contemplate them. It is favoured by the ambiguity of language which arises from speaking of inanimate objects in the terms applied to persons, as in an example of Mr. Spencer's own, where a child seeing a great meteor, exclaims, "O, mamma, there's the moon rinnin' awa'". And when in early stages of religion the notion gained ground of nature-spirits made after the likeness of human souls, the great powers of nature would be more and more identified with divine personal beings, glorified developments of the same original human type. While fully agreeing with Mr. Spencer in thinking that many of the current speculations on the origin of "nature-myths" to be met with in modern books on comparative mythology are mere fancies, as mythical as the myths themselves, I cannot but think he has gone too far in the opposite direction by so far ignoring the myth-making tendency of primitive man. This is too large a subject to discuss at the end of a notice like the present, but it is needful to mention it, as it is in rivalry with this theory of mythic personification of nature that Mr. Spencer brings into such prominence the hypothesis of verbal misunderstandings.

In conclusion, it is proper to mention the reason which has led me to dwell so much more on the points where Mr. Spencer's views differ from my own, than on the branches of the subject, really more both in number and consequence, as to which I have the high satisfaction of finding my own inferences from the facts to be in unity with those arrived at by so

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eminent a thinker. My object in so often taking the line of a fault-finder is mainly this. As yet there is but a limited number of students who seriously occupy themselves with the problem of the development of religious ideas as viewed from the ethnological standing-point. Probably in a few years' time public interest in this great problem will be much wider and deeper, a result to which the present work must largely contribute. When this happens, a vast controversy will no doubt set in, for which it will be advantageous to ethnologists to be well prepared beforehand. The previous interval may therefore be well turned to account in settling discrepancies as to subordinate points, so that the weaker parts of the theory of animistic development may be cut out and their places supplied with stronger evidence and reasoning. Mr. Spencer's work seems to me to do this in several branches of the subject, and notably as to ancestor-worship and fetishism. It is the best acknowledgment of the importance of the work at once to raise objection to the points which seem objectionable, that it may be settled as soon as possible whether the author will be able to maintain them or not.

EDWARD B. TYLOR.

II.—CONSCIOUSNESS AND UNCONSCIOUSNESS.*

SCIENCE demands precision of terms; and in this sense Condillac was justified in defining it "*une langue bien faite*". The sciences of Measurement are exact because of the precision of their terms, and are powerful because of their exactness. The sciences of Classification cannot aspire to this precision, and therefore, although capable of attaining to a fuller knowledge of phenomena than can be reached by their rivals, this advantage of a wider range is accompanied by the disadvantage of a less perfect exposition of results. While physicists and chemists have only to settle the significance of the facts observed, biologists and social theorists have over and above this to settle the significance of the terms they employ in expressing the facts observed. Hence more than half their disputes are at bottom verbal.

This is markedly the case in the question of Automatism. One man declares that animals are automata; another that they are conscious automata; and while it is quite possible to hold these views and not practically be in disagreement with the views

* From a forthcoming volume on *The Physical Basis of Mind.*

of ordinary men, or indeed with the views of spiritualist and materialist philosophers, we can never be sure that the advocates of Automatism do not mean what they are generally understood to mean. If a man says that by an automaton he does not here mean a machine, such as a steam-engine or a watch, but a vital mechanism which has its parts so adjusted that its actions resemble those of a machine; and if he adds that this automaton is also conscious of some of its actions, though unconscious of others, we can only object to his using terms which have misleading connotations. If he mean by "conscious automata," that animals are mechanisms moved on "purely mechanical principles," their consciousness having nothing whatever to do with the production of their actions, then indeed our objection is not only to his use of terms, but to his interpretation of the facts.

The questions of fact are two: Are animal mechanisms rightfully classed beside machines? and, Is consciousness a coefficient in the actions of animal mechanism? The first has already been answered; the second demands a preliminary settlement of the terms "conscious," "unconscious," "voluntary," and "involuntary". The aim of Physiology is to ascertain the particular combinations of the elementary parts involved in each particular function—in a word, the mechanism of organic phenomena; and the modern Reflex Theory is an attempt to explain this mechanism on purely mechanical principles, without the co-operation of other principles, especially those of Sensation and Volition. It is greatly aided by the ambiguity of current terms. We are accustomed to speak of certain actions as being performed unconsciously or involuntarily. We are also accustomed to say that Consciousness is necessary to transform an impression into a sensation, and that Volition is the equivalent of conscious effort. When, therefore, unconscious and involuntary actions are recorded, they seem to be actions of an insentient mechanism. The Reflex Theory once admitted, a rigorous logic could not fail to extend it to all animal actions.

I reject the Reflex Theory, on grounds hereafter to be urged, but at present call attention to the great ambiguity in the terms "conscious" and "unconscious". In one sense no definition of Consciousness can be satisfactory, since it designates an ultimate fact which cannot therefore be made more intelligible than it is already. In another sense no definition is needed, since every one knows what is meant by saying, "I am conscious of such a change, or such a movement". It is here the equivalent of Feeling. To be conscious of a change, is to feel a change. If we desire to express it in physiological terms, we must define Consciousness—"a function of the organism"; and this definition we shall find eminently useful, because the organism being a vital

mechanism and the integrity of that mechanism being necessary for the integrity of the function, while every variation of the mechanism will bring a corresponding variation of the function, we shall have an objective guide and standard in our inquiries. Organisms greatly differ in complexity, yet because they also agree in the cardinal conditions of Vitality, among which Sensibility is one, we conclude that they all have Feeling; but the Feeling of the one will differ from that of another, according to the complexity of the sentient mechanism in each. The perfection of this mechanism lies in the co-ordination of its parts, and the consensus of its sentient activities; any disturbance of that consensus must cause a modification in the total consciousness; and when the disturbance is profound the modification is marked by such terms as "insanity," "loss of consciousness," "insensibility". These terms do not imply that the sentient organs have lost their Sensibility, but only that the disturbed mechanism has no longer its normal consensus, no longer its normal state of Consciousness. Each organ is active in its own way so long as its own mechanism is preserved; but the united action of the organs having been disturbed, their *resultant* function has been altered. Hence in a fit of Epilepsy there is a complete absence of some normal reactions, with exaggeration of others. In a state of Coma there is no spontaneity—none of the manifold adaptations of the organism to fluctuating excitations, external and internal, observable in the normal state. The organism still manifests Sensibility—but this is so unlike the manifestations when its mechanism is undisturbed (and necessarily so since the Sensibility varies with the mechanism) that it is no longer called by the same name. In the normal organism Sensibility means Feeling, or Consciousness; but in the abnormal organism there is said to be a "loss of Consciousness". What the physiologist or the physican means by the phrase "loss of Consciousness" is intelligible, and for his purpose unobjectionable. He observes many organic processes going on undisturbed—the unconscious patient breathes, secretes, moves his limbs, &c. These processes are referred to the parts of the mechanism which are not disturbed; they are obviously independent of the adjustment of the mechanism which, by its *consensus*, has the special resultant named Consciousness; he therefore concludes that these, and many other organic processes, which are neither accompanied nor followed by *discriminated* feelings, are the direct consequences of the stimulated mechanism. He never hesitates to adopt the popular language, and say, "We sometimes act unconsciously, perceive unconsciously, and even think unconsciously, all by the simple reflex of the mechanism".

Now observe the opening for error in this language. The actions

are said to go on unconsciously, and, because unconsciously, as pure reflexes, which are then assigned to an insentient mechanism, and likened to the actions of machines. But, as I hope hereafter to make evident, the reflex mechanism necessarily involves Sensibility; and therefore reflex actions may be unaccompanied by Consciousness—in one meaning of that term—without ceasing to be sentient: the feelings are operative, although not discriminated. On the other hand, there is another and very general meaning of the term Consciousness, which is the equivalent of Sentience.

In discussing Automatism, or the Reflex Theory, it is absolutely necessary that we should first settle the meaning we assign to the term Consciousness. The laxity with which the term is used may be seen in the enumeration occupying six pages of Professor Bain's account of the various meanings. Psychology is often said to be "the science of the facts of Consciousness"; and the Brain is often assigned "as the organ of Consciousness". Yet there are many mental processes, and many cerebral processes, which are declared to be unconscious. Obviously if Consciousness is the function of the Brain, there can be no cerebral activity which is unconscious; just as there can be no activity of the lungs which is not respiratory. Usage therefore points to a general and a special sense of the term. The general usage identifies it with Sensibility, in its subjective aspect as Sentience, including all psychical states, both those classed under Sensation, and those under Thought. These states are the "facts of consciousness" with which Psychology is occupied. In the special usage it is distinguished from all other psychical states by a peculiar reflected feeling of Attention, whereby we not only *have* a sensation, but also *feel* that we have it; we not only think, but are conscious that we are thinking; not only act, but are conscious of what we do. It is this which Kant indicates when he defines it "the subjective form accompanying all our conceptions (*Begriffe*)"; and Jessen when he defines it "the internal knowing of our knowing, and in itself reflected knowing".*

We shall often have to recur to this general and this special meaning, both of which are too firmly rooted for any successful attempt to displace them. The fact that some organic processes and some mental processes take place now consciously and now unconsciously, *i.e.*, now with the feeling of reflected attention,

* "Das Bewusstwerden ist nichts Anderes als ein weiter fortgeschrittenes Erinnern oder Neuwerden des von aussen aufgenommenen Wissens, ein innerliches Wissen dieses Wissens oder ein in sich reflectirtes Wissen."—JESSEN: *Versuch einer Wissenschaftlichen Begründung der Psychologie*, 1855, p. 477.

and now with no such feeling, assuredly demands a corresponding expression; nor, in spite of inevitable ambiguities, is there ground for regretting that the expression chosen should be only an extension of the expression already adopted for all other states of Sentience. A sentient or conscious state can only be a state of the sentient organism, itself the unity of many organs, each having its Sensibility. There is more or less consensus, but there is no introduction of a new agent within the organism, connecting what was physical impression into mental reaction. From first to last there has been nothing but neural processes, and combinations of such processes—which, viewed subjectively, are sentient processes. Thus the gradations of sensitive reaction are Sentience, Consentience, and Consciousness, which are represented in the Logic of Feeling and the Logic of Signs. The familiar term Conscience will then represent the Logic of Conduct. Thus understood, we may say that a man sometimes acts unconsciously, or thinks unconsciously, although his action and thought are ruled by Consentience, as he sometimes acts and thinks unconscientiously, although he is not without obedience to Conscience on other occasions. The feeling which determines an action is *operative*, although it may not be *discriminated* from simultaneous feelings. When this is the case, we say the feeling is unconscious; but this no more means that it is a purely physical process, that it takes place outside the sphere of Sentience, than the immoral conduct of a man would be said to be mechanical, and not the conduct of a moral agent. There is undoubtedly a marked distinction expressed in the terms Consciousness and Unconsciousness, but it is not that of Mental and Physical, it is that of extremes such as Light and Darkness. Just as Darkness is a positive optical sensation very different from mere privation—just as it replaces the sensation of Light, blends with it, struggles with it, and in all respects differs from the *absence* of all optical sensibility in the skin; so Unconsciousness struggles with, blends with, and replaces Consciousness in the organism, and is a positive state of the sentient organism, not to be confounded with a mere negation of Sentience; above all, not to be relegated to merely mechanical processes.

Remember that, strictly speaking, Consciousness is a psychological not a physiological term, and is only used in Physiology on the assumption that it is the subjective *equivalent* of an objective process. To avoid the equivoque of "unconscious sensation," we may substitute the term "unconscious neural process"; and as all neural processes imply Sensibility, which in the subjective aspect is Sentience, we say that Sentience has various modes and degrees—such as Perception, Ideation, Emotion, Volition, which may be conscious, sub-conscious, or unconscious.

When Leibnitz referred to the fact of "obscure ideas," and modern writers expressed this fact as "unconscious cerebration," the one phrase did not imply a process that was other than mental, the other phrase did not imply a process that was other than physiological; both indicated a mode of the process known as Consciousness under other modes. There are different neural elements grouped in Ideation and Emotion; there are different neural elements grouped in Consciousness, Sub-consciousness, and Unconsciousness; but one tissue with one property is active in all.

The nervous organism is affected as a whole by every affection of its constituent parts. Every excitation, instead of terminating with itself—as is the case in most physical processes—or with the motor impulse it excites, is propagated throughout the continuous tissue, and thus sends a *thrill* throughout the organism. The wave of excitation in passing onwards beats against variously-grouped elements—temporary and permanent centres—disturbing their balance more or less, and liberating the energy of some, increasing the tension of others, but necessarily affecting all. Those groups which have their energy liberated set up processes that are either *discriminated* as sensations, or are blended with the general stream, according to their *relative* energy in the consensus. Thus the impulse on reaching the centres for the heart, lungs, legs, and tail excites the innervation of these organs; but as these are only parts of the organism, and as all the parts enter the consensus, and Consciousness is the varying resultant of this ever-varying consensus, the thrill which any particular stimulus excites will be unconscious, sub-conscious, or conscious, in proportion to the extent of the *irradiated* disturbance, which will depend on the statical conditions of the centres at the moment. A sound sends a thrill which excites emotion, causes the heart to beat faster, the muscles to quiver, the skin-glands to pour forth their secretion; yet this same sound heard by another man, or the same man under other conditions, physical or historical, merely sends a faint thrill, just vivid enough to detach itself as a sensation from the other simultaneous excitations; and the same sound may excite a thrill which is so faint and fugitive as to pass unconsciously. Physiological and psychological inductions assure us that these are only differences of degree. The same physiological effects accompany the conscious and unconscious state. Every sensory impression, no matter whether discriminated or not, affects the circulation and develops heat. The blood-vessels of the part impressed expand, vessels elsewhere contract—a change in the blood pressure has been effected, which of course implies that the whole organism has been

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affected. Delicate instruments prove that at the time a sensation is produced the temperature of the brain is raised. The same is true of ideation. Mosso has invented a method of registering the effect of thought on the circulation. He finds ideation accompanied by a contraction of the peripheral vessels proportionate to the degree of intellectual effort. A young man translating Greek showed greater contraction than when he was translating Latin. During sound sleep—when we are said to be unconscious—sudden noises always cause contraction of the peripheral vessels. Psychological observation assures us that the conscious and unconscious states were both consentient, and were both operative in the same degree. The absorbed thinker threads his way through crowded streets, and is sub-conscious and unconscious of the various sights, sounds, touches, and muscular movements which make up so large a portion of his sentient excitation at the time; yet he deftly avoids obstacles, hears the sound of a hurried step behind him, recognises an interesting object directly it presents itself, and can even recall in Memory many of the uninteresting objects which he passed in sub-conscious and unconscious indifference.

On all grounds, therefore, we must say that between conscious, sub-conscious, and unconscious states the difference is only of degree of complication in the neural processes, which by relative preponderance in the consensus determine a relative discrimination. We can only discriminate one thrill at a time; but the neural excitations simultaneously pressing towards a discharge are many; and the conditions which determine now this, and now the other excitation to predominate by its differential pressure, are far beyond any mechanical estimate. I mention this because the advocates of the Reflex Theory maintain that the neural processes are the same whether a sensation be produced or not; and that since the same actions follow the external stimulation whether sensation be produced or not, this proves the actions to be purely mechanical. I reply, the neural processes are *not* the same throughout in the two cases—otherwise the effects would be the same. You might as well say, "Since the explosion of the gun is the same, whether shotted or not, a blank cartridge will kill"; but if you tell me that your gun killed the bird, I declare that the cartridge was *not* a blank one. Whether the explosion of the gun *also* produced terror in one bystander, curiosity in a second, and attracted no notice from a third, will be altogether another matter. In like manner the sensory impression which determines a movement may or may not be accompanied or followed by *other* sentient states; the fact of such movement is evidence of its sentient antecedent; and an external stimulus that will produce *this* neural process,

and this consequent movement, must produce a feeling, although not necessarily a discriminated sensation. Now since, for discrimination, *other* neural processes must co-operate, we cannot say that in the two cases the neural processes have been the same throughout; nor because of this difference can we say that the process of the undiscriminated sensation is a mechanical, not a sentient process.

The need of recognising Consciousness and Consentience as degrees of energy and complexity in sentient states is apparent when we consider animal phenomena. Has a bee consciousness? Has a snail volition? or are they both insentient mechanisms? All inductions warrant the assertion that a bee has thrills propagated throughout its organism by the agency of its nerves; and that some of these thrills are of the kind called sensations —even discriminated sensations. Nevertheless we may reasonably doubt whether the bee has sentient states resembling otherwise than remotely the sensations, emotions, and thoughts which constitute human Consciousness, either in the general or the special sense of that term. The bee feels and reacts on feelings; but its feelings cannot closely resemble our own, because the conditions in the two cases are different. The bee may even be said to think (in so far as Thought means logical combination of feelings), for it appears to form Judgments in the sphere of the Logic of Feeling—*τὸ νοητικόν*; although incapable of the Logic of Signs—*τὸ διανοητικόν*. We should therefore say the bee has Consentience, but not Consciousness—unless we accept Consciousness in its *general* signification as the equivalent of Sentience. The organism of the bee differs from that of a man, as a mud hut from a marble palace. But since underlying these differences there are fundamental resemblances, the functions of the two will be fundamentally alike. Both have the function of Sentience; as mud hut and palace have both the office of sheltering.

The question of Volition needs a separate discussion. Restricting ourselves here to that of Consciousness, and recalling the distinction of the two meanings of the term, we now approach the question of Unconsciousness. Are we to understand this term as designating a purely physical state in contrast to the purely mental state of Consciousness; or only as designating a difference of degree? This is like asking whether Light and Darkness are both optical feelings, or one an optical feeling and the other a physical process? On the Reflex Theory, no sooner does a vital and mental process pass from the daylight of Consciousness, or twilight of Sub-consciousness, into the darkness of Unconsciousness, than the whole order of phenomena is abruptly changed, they cease to be vital, mental,

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and lapse into physical, mechanical processes. The grounds of this conclusion are, first, the unpsychological assumption that the unconscious state is out of the sphere of Sentience; and secondly, the unphysiological assumption that the Brain is the only portion of the nervous system which has the property of Sensibility. Restate the conclusion in different terms and its fallacy emerges: "organic processes suddenly cease to be organic, and become purely physical by a slight change in their *relative* position in the consensus; the organic process which was a conscious sensation a moment ago, when its energy was not balanced by some other process, suddenly falls from its place in the group of organic phenomena—sentient phenomena—to sink into the group of inorganic phenomena now that its energy is balanced". Consider the parallel case of Motion and Rest in the objective sphere. They are two functions of the co-operant forces, one dynamic, the other static; although markedly distinguishable as functions, we know that they are simply the co-operant forces now unbalanced and now balanced; what we call Rest is also a product of moving forces, each of which is operant, and will issue in a definite resultant when its counter-force is removed. Motion and Rest are correlatives, and both belong to the sphere of Kinetics. In like manner Consciousness and Unconsciousness are correlatives, both belonging to the sphere of Sentience.* Every one of the unconscious processes is operant, changes the general state of the organism, and is capable of at once issuing in a discriminated sensation when the force which balances it is disturbed. I was unconscious of the scratch of my pen in writing the last sentence, but I am distinctly conscious of every scratch in writing this one. Then, as now, the scratching sound sent a faint thrill through my organism, but its relative intensity was too faint for discrimination; now that I have redistributed the co-operant forces, by what is called an act of Attention, I hear distinctly every sound the pen produces.

The inclusion of Sub-consciousness within the sentient sphere is obvious; the inclusion of Unconsciousness within that sphere may be made so, when we consider its modes of production, and compare it with the extra-sensible conception of molecules and atoms. The Matter which is sensible as masses, may be divided into molecules, which lie beyond the discrimination of sense; and these again into atoms, which are purely ideal conceptions; but because molecules are *proved*, and atoms are *supposed*, to

* In common language a stone or a tree is said to be unconscious; but this is an anthropomorphic extension of the term. In strictness we should no more speak of unconsciousness outside the sphere of Sentience than of darkness outside the sphere of Vision.

have material properties, and to conform to sensible canons of the objective world, we never hesitate to class them under the head of Matter; nor do we imagine that in passing beyond the discrimination of Sense they pass into the subjective region. They are still physical, not mental facts. So with Sentience. We may trace it through infinite gradations from Consciousness to Sub-consciousness, till it fades away in Unconsciousness; but from first to last the processes have been those of a sentient organism; and by this are broadly distingushed from all processes in anorganisms. The movement of a limb has quite different modes of production from the movement of a wheel; and among its modes must be included those of Sensibility, a peculiarly vital property. Oxidation may be slow or rapid, manifesting itself as combustion, heat, or flame, but it is always oxidation—always a special chemical phenomenon. And so the neural process of Sentience, whether conscious, sub-conscious, or unconscious, is always a state of the sentient organism. If a material process does not change its character, and become spiritual, on passing beyond the range of sensible appreciation, why should a psychical process become material on passing beyond the range of discrimination? If we admit molecules as physical units, sentient tremors are psychical units. The extra-sensible molecules have indeed their subjective aspect, and only enter perception through the "greeting of the spirit". The sentient tremors have also their objective aspect, and cannot come into existence without the neural tremors, which are their physical conditions.

It is only by holding fast to such a conception that we can escape the many difficulties and contradictions presented by unconscious phenomena, and explain many physiological and psychological processes. Descartes—followed by many philosophers—identified Consciousness with Thought. To this day we constantly hear that to have a sensation, and to be conscious of it, is one and the same state; which is only admissible on the understanding that Consciousness means Sentience, and Sentience the activity of the nervous system viewed subjectively. Leibnitz pointed out that we have many psychical states which are unconscious states—to have an idea and be conscious of it, are, he said, not one but two states. The Consciousness by Descartes created into an essential condition of Thought, was by Leibnitz reduced to an accompaniment which not only may be absent, but in the vast majority of cases is absent. The teaching of most modern psychologists is that Consciousness forms but a small item in the total of psychical processes. Unconscious sensations, ideas, and judgments are made to play a great part in their explanations. It is very certain that in

every conscious volition—every act that is so characterised—the larger part of it is quite unconscious. It is equally certain that in every perception there are unconscious processes of reproduction and inference—there is much that is *implicit*, some of which cannot be made explicit—a "middle distance" of sub-consciousness, and a "background" of unconsciousness. But, throughout, the processes are those of Sentience.

Unconsciousness is by some writers called *latent* Consciousness. Experiences which are no longer manifested are said to be stored up in Memory, remaining in the Soul's picture-gallery, visible directly the shutters are opened. We are not conscious of these feelings, yet they exist as latent feelings, and become salient through association. As a metaphorical expression of the familiar facts of Memory this may pass, but it has been converted from a metaphor into an hypothesis, and we are supposed to *have* feelings and ideas, when in fact we have nothing more than a modified *disposition* of the organism—temporary or permanent—which when stimulated will respond in this modified manner. The modification of the organism when permanent becomes hereditary; and its response is then called an instinctive or automatic action. And as actions pass by degrees from conscious and voluntary into sub-conscious and sub-voluntary, and finally into unconscious and involuntary, we call them volitional, secondarily automatic, and automatic. If any one likes to say the last are due to latent consciousness, I shall not object. I only point to the fact that the differences here specified are simply differences of degree—all the actions are those of the sentient organism.

Picture to yourself this sentient organism incessantly stimulated from without and from within, and adjusting itself in response to such stimulations. In the blending of stimulations, modifying and arresting each other, there is a fluctuating "composition of forces," with ever-varying resultants. Besides the stream of direct stimulations, there is a wider stream of indirect or reproduced stimulations. Together with the present sensation there is always a more or less complex group of revived sensations, the one group of neural tremors being organically stimulated by the other. An isolated excitation is impossible in a continuous nervous tissue; an isolated feeling is impossible in the consensus or unity of the sentient organism. The term Soul is the personification of this complex of present and revived feelings, and is the substratum of Consciousness (in its general sense), all the particular feelings being its *states*. To repeat an illustration used in my first volume, we may compare Consciousness to a mass of stationary waves. If the surface of a lake be set in motion each wave diffuses itself over

the whole surface, and finally reaches the shores, whence it is reflected back towards the centre of the lake. This reflected wave is met by the fresh incoming waves, there is a blending of the waves, and their product is a pattern on the surface. This pattern of stationary waves is a fluctuating pattern, because of the incessant arrival of fresh waves, incoming and reflected. Whenever a fresh stream enters the lake (*i.e.*, a new sensation is excited from without), its waves will at first pass over the pattern, neither disturbing it nor being disturbed by it; but after reaching the shore the waves will be reflected back towards the centre, and there will more or less modify the pattern.

GEORGE HENRY LEWES.

III.—THE 'SUPPRESSION' OF EGOISM.*

As Mr. Sidgwick's book on *The Methods of Ethics* seems thought to have cast some discredit on the system which he calls 'Egoistic Hedonism,' and which indeed he himself distinctly claims to have 'suppressed,' I propose in this paper to consider his treatment and non-treatment of that system.

Of the principle that the Ethical end of Action is Pleasure of the Actor, there are three distinct and independent proofs, which I may call respectively the Physical, the Introspective, and the Intuitional. My aim will be to show that of these Mr. Sidgwick has omitted the first, has not disproved the second, and has established the third. If any one of these propositions be accurate, then, since one proof is sufficient to prove, and truth is not made doubtful by the possibility of reaching it falsely, Egoism will be untouched by Mr. Sidgwick's attack. Instead of the 'suppressor' of Egoism, I hope to show him its unwilling prophet. Let me remark at the outset that it is the Science, not the Art, of Morality that I am concerned with; the truth of principles, not the method of using them. If a man can establish a thing to be true, he need not care for its practical application: that will take care of itself.

* Notwithstanding that so much space has already been given in MIND to the criticism of Mr. Sidgwick's work, I do not hesitate to print the following article, written as it is from a fresh point of view. The interest that continues to be excited by *The Methods of Ethics*, shown also in the recent appearance of Mr. F. H. Bradley's pamphlet *(Mr. Sidgwick's Hedonism*, King & Co.), is a notable fact in English philosophy at the present day, and there should remain due record of it in the pages of this Journal. EDITOR.

I. The title of Mr. Sidgwick's book should have been *The Introspective Method of Ethics.* For starting with the assumption of a Moral Faculty, into the origin of which it refuses to enquire, the whole book is an elaborate analysis of the dicta of this 'Faculty'. There is therefore but a single method examined, the Introspective; and the various so called 'methods' are distinguished by the different axioms or principles which Reason dictates, and not by the method of arriving at them which is throughout the same, *viz.*, self-interrogation. They are in fact not different 'Methods of Ethics' but different results of the same method.

Of course an author is perfectly justified in confining himself to any branch of a subject which he may select, and so impartial and thorough an investigation of any single method as that which Mr. Sidgwick has given to the Intuitive method of Ethics cannot fail to be of great value, if the only result were to bring into clear relief the divergent results to which such method leads and its consequent uselessness for scientific purposes. But it is hardly fair to take arbitrarily a single method, and treat it as the only one possible, or even as the only one worthy of a particular name. A man who wrote a treatise on 'The Methods of Acoustics' and confined himself to an examination of the various opinions as to the nature of sound held by persons with 'a good ear,' and refused all enquiry into its physical properties, and all aid from any sense except that of hearing only, as foreign to his subject and of no practical import, might compose a very instructive and valuable work, but would hardly be thought to have exhausted the possibilities of a Science of Sound. Yet he would be clearly more justified by at least the etymological meaning of words in saying that Acoustics has to do with the sense of hearing only, than Mr. Sidgwick has in saying that Ethics has to do only with the Moral Faculty. Mr. Sidgwick says (p. vi.) that "the investigation of the historical antecedents of this cognition, and of its relation to other elements of the mind, no more properly belongs to Ethics than the corresponding questions as to the cognition of Space belong to Geometry". But in the first place, Geometry does not assume a Spatial Faculty and proceed simply to interrogate that and chronicle the results; it measures one sense against another and so arrives at what we call 'objective' or what is in fact *consistent* truth. And secondly, if Geometry assumes the fundamental properties of space as axioms or postulates, that is because there is no dispute about them; they are indisputably or at least undisputedly valid, and that is sufficient. But in Ethics it is as to the axioms that the great dispute arises, their application being scientifically of minor importance. And to

say that the latter only is the proper province of Ethics, is clearly opposed to the ordinary use of the word, and as clearly opposed to Mr. Sidgwick's understanding of it, seeing that he defines it as "the study of what ought to be done" (p. 4) and that his whole book is a consideration of the relative value of first principles and not only of their application to practice. But Mr. Sidgwick may say: 'I do not object to your discussing principles as much as you like, so long as you keep to the Moral Faculty, but if you go behind that you get out of Ethics'. To this I answer: In the first place, I doubt the validity of your Moral Faculty, and in order to determine that I must compare it with my other faculties. No doubt, as you say (p. 4) "if we were only agreed as to what we ought to do, the question 'How we come to know it' would be one of quite subordinate interest"; but we are not agreed, and the question therefore becomes vital. But in the second place, suppose this moral faculty to be valid, why should Ethics be confined to it alone, any more than Acoustics is confined to the faculty of hearing? There can be no science which is confined to one sense, because there can thus be no objectivity. From hearing alone how can we know that sound means the same, that is, stands in the same relation, to all men? Similarly from the moral faculty *alone* how can you distinguish "between what men think to be their duty and what really is such"? If the moral faculty be ultimate, what *is* a man's duty is what the moral faculty says, *i.e.*, to each man is what *he thinks* his duty. So we get to the old sophistic doctrine of individualism, which is plainly exclusive not only of a science of Ethics but of all ethical reasoning. If on the contrary it be assumed as it is by Mr. Sidgwick (p. 6), that there is an objective good, and that this can be known, interrogation of the moral faculty can clearly not yield it, and therefore the insufficiency of the Introspective Method is assumed in all moral reasoning. To say that men know 'objective' good, but can give no reason for it or explanation of it, is really to say that good *is* in the knowledge of it, or in other words is subjective only.

I may here make a remark, the importance of which will be seen hereafter, that there may be an objective good which is still relative to the individual, if it bear the same relation to all individuals: for instance, it may be Pleasure, which though relative to the organism is in a universal relation, and therefore satisfies the conditions of Science. Mr. Sidgwick is not accurate here. He says (p. 6): "If it be maintained that two men may act in two different ways under circumstances precisely similar, and yet neither be wrong because each thinks himself right: then the common notion of morality must be rejected as a

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chimera. That there is in any given circumstances some one thing which ought to be done and that this can be known, is a fundamental assumption." Now if under 'circumstances' he includes *internal* circumstances such as character and belief, his hypothesis is self-contradictory, because different beliefs as to what is right are different circumstances: if not, the conclusion is false; for common morality says that a man ought to act not only according to his beliefs but according to the whole of his nature, and that what is right for one man may be wrong for another. The only fundamental assumption either necessary for a Science of Ethics or warranted by common notions is that morality conforms to the general law of uniformity, *i.e.*, that in the same circumstances, external and internal, the same thing is morally good: "*ὁμοίων γὰρ ὄντων καὶ πρὸς ἄλληλα τόν αὐτὸν τρόπον ἐχόντων τοῦ τε ποιητικοῦ καὶ τοῦ παθητικοῦ, ταὐτὸ πέφυκε γίνεσθαι*". If this be so, then in any given circumstances "there is some one thing which ought to be done"; one, not in the sense that it is the same for each man, but that it has the same *relation* to each man, and therefore is capable of being known in the case of each man by all men.

But there is another reason why Mr. Sidgwick objects to going outside the moral faculty and explaining its derivation, namely, that "this would require us to prefer the coarsest and lowest of our pleasures to those that are more elevated and refined: which no one would maintain to be reasonable" (p. 42). And again (p. 186) "Why should our earliest beliefs and perceptions be more trustworthy than our latest, supposing the two to differ? The truths of the higher mathematics are among our most secure intellectual possessions, yet the power of apprehending these is rarely developed until the mind has reached maturity." Now, inasmuch as Mr. Sidgwick has defined 'Reason' as the faculty which prescribes moral rules, it is a clear fallacy to argue in favour of these rules that they are more 'reasonable' than others. But apart from this, Mr. Sidgwick should not forget that a thing may be *φύσει πρότερον*, but *ὕστερον ἡμῖν*. He would surely not argue against the Cosmogony of Laplace, that it is 'unreasonable' and retrogressive, because it goes back to the 'mean and beggarly elements' of nature. Surely this is the very law and order of knowledge, to return on nature's tracks, so that the farther back it can get the more perfect it is; and the truths of Mathematics are secure for this very reason that they go back the farthest of all. This is just what we wish to do with the Moral Faculty, to carry it farther back into its elements and thus rest it on a secure foundation. No one says that it is 'unreal' or 'vanishes' because it is found to be compound; on the contrary its exist-

ence is more real because more known. No one wishes to substitute the elemental pleasures for the compound, the earliest beliefs for the latest, but to know or render self-conscious the evolution of one from the other, and thus to understand our present nature. A belief cannot be more valid than its data, and therefore if we discover the origin of our present beliefs we shall have at any rate a maximum measure of their validity.

In an article in MIND No. I., Mr. Sidgwick seems to have intended to collect more systematically than he has done in his book his reasons for excluding the history of the Moral Faculty from the province of Ethics. He there repeats the arguments which I have already noticed, with others which I may briefly summarise as follows. 'True it is that Evolution is progress, and that Morality aims at progress; but how do you know that the two kinds of progress are identical? How do you connect 'is' with 'ought to be,' 'being' with 'well-being'?' To answer this thoroughly would be to expound the Physical System of Ethics, which I have tried to do elsewhere, but which it is not now my business to attempt: suffice it for the present purpose to give the answer which Mr. Sidgwick himself suggests that the connecting link is 'happiness' or 'pleasure'. 'But if this be so' says Mr. Sidgwick, 'it is easier to aim at this directly than through development. No two even of your experts are agreed as to where the latter is going, so that it is a very useless mark to aim at.' To this I answer:—At any rate it takes nothing away; you have the old mark of pleasure left, and you are no worse off than before; besides, if it is true, I do not care to ask whether it is useful or not. But I answer chiefly that development is not the mark which the scientific system of Ethics sets up. In showing you the development of the organised search for pleasure it does not bid you aim at *development* as such, but shows you *why* you ought to aim at *pleasure*, by proving that you do so aim and that 'ought to' is compounded out of 'is'. 'But if you mean,' says Mr. Sidgwick, 'that evolution reconciles the Instinctive and Utilitarian Morality, it can only do so on a broad general ground, and inasmuch as their mutual agreement in the main is self-evident, to show the reason of it is ethically superfluous whatever historical interest it may have.' To this I answer as before that nothing is scientifically 'superfluous' that is true; and that the whole interest of physical science is in this sense 'historical,' for its aim is a conscious retracing of the unconscious evolution of the universe. But to give a less general answer: Would Mr. Sidgwick say that the nebular hypothesis, supposing it to be true, is 'astronomically superfluous,' or that the laws of the formation of clouds have only an 'historical interest' to Meteorology? Or, to take

another instance, would a knowledge of the creation of mankind by God have no bearing on its relations to him when once created? And has legal history no jural value?

In another paper in MIND No. V., Mr. Sidgwick appears as the champion of Hedonism against a supposed assault from the side of Physical Science, but his arguments go only to establish against a mere external standard the necessity of a Hedonistic criterion, and do not at all effect my position that Science *proves* Hedonism, but proves it in the Egoistic form.

Finally, I would remark that, supposing Mr. Sidgwick's objections well founded, as I contend they are not, they furnish no answer to the proposition which I am here concerned to establish, *viz.*, that the Physical or Scientific proof of Egoistic Hedonism is nowhere examined, much less disproved, by Mr. Sidgwick: for they are all not arguments against it but reasons for its non-examination. This fact is not only a sufficient provisional defence of Egoism, but marks a defect in the plan of Mr. Sidgwick's book, if while professing to examine scientific methods of Ethics he really excludes the only method which is scientific at all. To talk of a 'science' which "lies outside of all investigation of the actual" (p. 2) may be called a mere 'verbal' error, but only in the sense that all misstatements, being made in words, are verbal mistakes. The object of true or what Mr. Sidgwick calls "speculative" science is by comparing the data of different senses and so correcting their deficiencies to arrive at 'objective' truth; and just as Physical Optics or Acoustics takes light or sound and resolves them into the simpler elements of vibration, so Physical Ethics resolves Good into its constituent elements. It explains the Moral Faculty and its judgments of 'right' and 'good' as the physical result of Evolution, which objectively is perfection, subjectively is pleasure-attaining, and self-consciously is pleasure-seeking; and thus it connects the sphere of morality with the physical universe, gives a new meaning to the ethical dogma 'Follow nature,'* and constitutes a true Science of Ethics. Of this

* At p. 356, Mr. Sidgwick says that this maxim involves a vicious circle. How so? Even to the Stoics it meant 'Consciously imitate the unconscious striving of nature'; to us it means 'Be a self-conscious agent in the evolution of the universe'. In another place (p. 63) he seems to think that 'Follow nature' means 'Go in the *opposite* direction to nature,' '*Un*develope yourself'. Conformity to nature means conformity to its dynamical laws of Evolution, and to its statical laws of Physics. The former involves action, the latter knowledge; there is no real ambiguity in either precept. I may notice that the Physical System of Ethics reconciles Stoicism and Epicureanism by showing them to be the inner and outer expressions of the same law; the Stoic giving the Physical element, the Epicurean the Ethical.

'Method of Ethics' Mr. Sidgwick gives no account: he hardly even says of it that it does not exist.

II. I said that Mr. Sidgwick's book should be called 'The Introspective Method of Ethics': I had almost said 'Intuitional'. For it is not even to the whole facts of our inner consciousness but to the single consciousness of Duty that his method is chiefly directed; not to what actually are our motives, but to what we think they ought to be. The larger Introspective Method he does indeed hint at in a single short chapter (Book I., ch. iv.) but only to put it aside; and the remainder of the book is devoted to 'Reason'. His position in that chapter I take to be this: Admitting that if pleasure could be proved to be the universal motive this would be binding on Reason, necessity being evidently comprehensive of duty, he argues that such proof is imperfect, and the mere generality of motive which it establishes is not sufficient to displace or subordinate the motive which he assumes, *viz.*, the "desire to do what Reason dictates". To arrive at this position he has to refute what I have called the Introspective proof of Hedonism, *viz.*, that self-examination shows us that pleasures and pains are as a matter of fact the only motives to voluntary action, and act in proportion to their intensity. Let us examine his arguments. The first (p. 31) is as follows: "It is a matter of common experience that the resultant or prevailing desire in men is often directed towards what (even in the moment of yielding to the desire) they think likely to cause them more pain than pleasure on the whole. 'Video meliora proboque, Deteriora sequor.'" In other words Action does not always follow Knowledge. Of course not; but the doctrine does not require that it should, for it says, not that we follow what *is* our greatest possible pleasure or what we know or 'think' to be so, but what at the moment of action is most desired. In fact the only practical measure of pleasures as motives at any moment, is in ourselves the resultant desire, in others the resultant action. But it may be objected that to say that 'the pleasure which under any given circumstance is the greatest moves,' and when asked for a measure to say 'the pleasure which moves is under those circumstances the greatest',—is to argue in a circle. It is no more a circle than to measure weights by their effect on the scales, or temperatures by the position of the mercury in a thermometer. The argument is at bottom this: I know pleasure to be a motive, and I know no other; I reasonably assume (having no evidence to the contrary) that motives follow laws analogous to those of other forces, or, in other words, the law of causation (this is what Mr. Sidgwick really asserts under the 'objectivity' of good): therefore, just as, when two forces acting on a body in

opposite directions result in movement in one of these directions, we say that *under those conditions* the conquering force was the greatest, so, when desire or action follows one motive rather than its opposite, we define the motive force of the first *under those conditions* to be greater than that of the latter. In each of these cases the absolute relation (if I may use such an expression) between the forces or motives may be very different from their relation under the given conditions: for in order to measure their absolute values the special conditions must be eliminated. The 'condition' which is most important is that of position: in the case of mechanical forces, position in space; in the case of motives, position in time.* When I raise my hand, I know that my muscular force is not absolutely greater than the earth's attraction but only in that relative position. Similarly when I act to secure a 'nearer good,' I may know quite well that it is 'less valuable' according to an absolute standard. For the idea of a distant pleasure is far weaker than that of an immediate one, but in theory this 'discount' is not considered, for theory ideally simplifies by eliminating the element of time altogether, just as Algebra eliminates space from Geometry. What is best in theory is what would have been best in the end, but what moves is the resultant of the projections of pleasures on the plane of the present. Action looks at life as we look at a landscape, knowledge maps it out to scale as on a chart. This divergence is gradually remedied by habitually acting on principle, and so making allowance for distance *automatically*, as we do in the eye: but this takes time, "*δεῖ γὰρ συμφῦναι, τούτῳ δε χρόνου δεῖ*," and in human beings is at present very imperfect. To suppose that action could exactly follow theoretic knowledge is to suppose a being in whom ideas should be equally vivid however distant the anticipations, in other words, should be equivalent to sensations; to whom therefore there should be no distinction of present and future, fact and knowledge, object and subject. But this is clearly not the case with man, so that to him knowledge which compares between ideas only, and ideas at equal distances, is necessarily at variance with action, which has to do with both ideas and sensations, and where perspective is everything.

But it may be answered that it is possible to act not only against *theoretical* knowledge, which is what Mr. Sidgwick seems to mean (*cf.* note to p. 112) but against *practical* knowledge, *i.e.*,

* We may perhaps conjecture that, as Time is extension in one dimension only, the law of motive force corresponding to the law of gravitation in space will be found to involve a function of the simple inverse of the distance in time of the origin of the force instead of the inverse square: probably also a constant determined in the case of each individual by a 'personal equation'.

not only against experience that certain actions *bring the most pleasure*, but even against experience that they are the *most pleasant at the time*. This is explained by another 'condition' of action which I have incidentally mentioned above, but which has a wider operation than what I may call 'the Temporal law of Motive,' *viz.*, imperfection of machinery. If a man acted up to his knowledge, whatever that might be, he would be *quâ practice, i.e.*, as a practical machine, perfect. But as a matter of fact not only is knowledge expressed imperfectly, but not unfrequently some knowledge does not emerge in action at all, forms no constituent of the resulting act. A new line of communication cannot enter into competition with one well used, for the tissues acquire 'habits' which take long to modify. In other words, habit controls the practical effect of knowledge. A man may either choose the wrong rule, the lower instead of the higher, or (what comes to the same thing) he may not perceive that the particular circumstance comes under its proper rule; or, as Aristotle says, the practical syllogism, which is the expression of knowledge in action, may be vitiated either by choosing the wrong major premiss or by the imperfect apprehension of the minor. In such cases therefore the *effective* knowledge is what Plato calls in the *Protagoras* "a kind of ignorance," *i.e.*, as compared with the higher knowledge which the man in a way has and has not: it is a less complete calculation of pleasure, a lower organisation of motive. But the difference is only in the completeness of the calculation, the nature of it is the same; and the fact of such difference means only that the machine is not perfect.

These considerations seem to me to dispose of Mr. Sidgwick's objection that action does not follow knowledge, whether by knowledge be meant ideal comparison of pleasures or belief as to the actual pleasantness of particular actions; and to show that, though desire may not be directed to the greatest pleasure within our reach or even to what we 'think' such, this does not involve (as Mr. Sidgwick thinks it does) the abandonment of the strict proportionality between pleasure and desire, any more than the fact that two equal weights at opposite ends of a stiffly working lever with unequal arms do not balance one another, disproves the strict proportionality between weight and active force. But the Introspective proof as I have stated it, involves the fact that we have no other motive than pleasure. Mr. Mill thinks this is so obvious as to be beyond dispute, but Mr. Sidgwick argues that this is due to a confusion between pleasure as "signifying the mere fact of preference" and pleasure as an "agreeable sensation"—the former being identical with motive and the latter being the ἡδονὴ of Hedonism. Now it is curious

that, when Mr. Sidgwick comes later on (p. 114) to discuss Hedonism and give "a more precise notion of pleasure," he says that "it seems obvious to define it as the kind of feeling which pleases us, which we like or prefer," and eventually concludes that "we must define pleasure, if we are to estimate it exactly, not as the kind of feeling which we actually seek and pursue, but as that which we judge to be preferable".* Therefore the distinction which he makes seems to be between what is actually preferred and what is judged to be preferable, and the argument is that the two do not agree, which resolves itself into that already considered, that practice is often at variance with knowledge. Apart from this argument, it is Mr. Sidgwick's own definition of the 'pleasure' of Hedonism that it is "the kind of feeling which we prefer," or, even more definitely, "which prompts us to actions tending to produce or sustain it": so that, even if our refutation of this argument is invalid, the only change which he would make in the 'tautological assertion' is that instead of 'we desire a thing in proportion as it appears pleasant,' he would say 'we *ought* to desire a thing in proportion as we know it to be pleasant': he only prefers the Intuitive proof to the Introspective.

Mr. Sidgwick's remaining arguments are all intended to show that our active impulses are not always "consciously directed towards the attainment of agreeable sensations as their end". As this is not the doctrine of Physical Hedonism I shall pass over these arguments shortly. Nobody denies that there are 'extra-regarding impulses' in this sense that desire of an end may become desire of means, so that it may seem to aim at means for their own sake. This is the case with appetites, as when a man takes a walk to 'get an appetite,' or pursuits such as fox-hunting; and it may often be true that a man is most likely to attain the end if he aim only at the means and forget the end. The extent to which this losing of end in means may be carried is illustrated in Benevolence, which "even though it may owe its origin to a purely egoistic impulse, is still essentially a desire to do good to others for their sake, and not for our own": in other words, I may find pleasure in doing good to others for their sake, and not for my own. We might go even further and say: I may cut my finger because it gives me pleasure to give myself pain. All this is part of Hedonism, which asserts that original impulses were all directed towards pleasure, and that any impulses otherwise directed are derived from these by 'association of ideas'. But Mr. Sidgwick says (p. 41) that observation is against this, "as preponderant

* *Cf.* p. 372, where he defines pleasure as "Preferable or Desirable Feeling of whatever kind".

objectivity seems characteristic of the earlier stages of our consciousness, and the subjective attitude does not become habitual till later in life". I answer that the earliest stage of our consciousness is before the separation of object and subject, and that the earliest motive and that which Hedonism asserts to be fundamental is 'a pleasure,' not either a 'pleasant object' or a 'pleased subject'. The first object of desire, a pleasant state, becomes afterwards thought of as a union of subject and object, and the desire may be transferred to either factor by association. When we reflect, we say, '*I* desire an *apple*': but the desire is for the union of object and subject, that the apple should become I. Hedonism would be true though the ideas of object and subject did not exist, and though no one had ever formed the idea of 'self' at all.

Mr. Sidgwick concludes with the argument that at any rate "all men do not *now* desire pleasure, but rather other things". I answer: That is exactly what you have to prove, and what is *not* proved by showing that means may be substituted for ends. For this does not make men desire "other things" than pleasure, but only makes them desire one pleasure instead of another, or (as it may be put otherwise) call an old pleasure by a new name.

In a subsequent chapter (at p. 115) Mr. Sidgwick asks the following question: How is non-hedonistic preference (which is commonly thought to be of frequent occurrence) possible, unless there is something preferable (*i.e.*, which *can* be preferred) besides pleasure, and if there is some such thing, what is it? The answer comes to this, that it must lie in the circumstances under which the state of consciousness arises, or the objective relations of the sentient individual. "For," he says, "if we separate in thought any state of consciousness from all its objective circumstances and conditions (and also from all its effects on the consciousness of the same individual or of others) and contemplate it merely as the transient feeling of a single subject; it seems impossible to find in it any other preferable quality than that which we call its pleasantness, as to which the judgment of the sentient individual must be taken as finally valid." This seems to me practically to yield the point at issue, if we remember that to the sentient individual the objective circumstances and conditions and also the effects of one of his conscious states are only modifications of that or some other of his conscious states, so that to him the only thing which is preferable, *i.e.*, which he can prefer, is a pleasant state, or that which produces a pleasant state. Consequences come in (and this is the explanation of preferring a 'higher' or more 'refined' to an immediately greater pleasure); but to each individual it is the consequences

to himself alone and in judging of them pleasure is the only ground of preference. That this is true Mr. Sidgwick seems really to admit: for he says (p. 371): "If I have any intuition at all respecting the ultimate ends of action, it seems to me that I can see this: that these objective relations of the conscious subject, when distinguished in reflective analysis from the consciousness accompanying and resulting from them, are not ultimately and intrinsically desirable: any more than material or other objects are, when considered out of relation to conscious existence altogether". If then nothing but conscious states of the conscious subject is 'ultimately desirable,' and the only 'preferable quality' in these is "that which we call pleasantness, as to which the judgment of the individual must be taken to be finally valid," this is *at least* Intuitive Egoism. I say *at least* because I am not sure whether Mr. Sidgwick here means by 'desirable' what he must have meant in the former passage, 'capable of being desired', or rather, 'which ought to be desired'. If he means the latter, I go on to say that conscious states alone are rationally desirable for this reason, that nothing else is or can be actually desired, seeing that a thing is *to us* its relations to us, or in other words, the states of consciousness which 'it produces' in us; so that any existence it may have in itself is at least indifferent to us, and incapable of exciting desire or preference. If this be true, the Introspective proof of Egoistic Hedonism is complete.

III. Having omitted the Physical and negatived the Introspective method, Mr. Sidgwick proceeds at once to the Intuitive. "To ascertain what Reason dictates" is, he says, "the aim of all ethical discussion." Of course it dictates all kinds of things; but on the whole Mr. Sidgwick gathers that Rational ends (for it is ends, not methods, which he uses as divisions) "are limited in number" and "seem to be" Perfection and Happiness, either individual or universal, and Rightness or Goodness for its own sake. These ends or methods he proceeds to consider *seriatim*. First he deals with Egoistic Hedonism. As to its fundamental principle he says that there seems to be more general agreement among reflective persons as to its reasonableness than for any other, such reasonableness being admitted by Utilitarian and Intuitionist alike: and that "the *onus probandi* lies with those who maintain that disinterested conduct as such is reasonable" (p. 108). Then follows an examination of its different methods of application, or of what Plato calls the μετρητικὴ τέχνη, such as the empirical comparison of pleasures, common sense judgments, notions of duty, divine law, natural impulses, self-development. All of these are found to lead back to the first, and that seems unworkable. These objections as to impracti-

cability do not seem, however, to be thought much of by Mr. Sidgwick, as he eventually adopts a system to which they apply with far greater force. At any rate they do not touch the *truth* of the principle, with which we are here concerned; nor, so far as I can see, its 'reasonableness' in the sense in which Mr. Sidgwick uses the word Reason, *viz.*, as "the faculty of apprehending universal truth". Egoism is made to seem unreasonable only by a confusion with the other sense of 'reason,' as *reasoning*, which seeks means to an end. For of course in that sense Egoism would be unreasonable if there were no means to it. But Mr. Sidgwick's Reason seems so called on this very account, because it makes affirmations for which no reason can be given. The result is that Reason says that Egoism is *primâ facie* proved. If Mr. Sidgwick, notwithstanding, feels "aversion" to it, and regards it as "ignoble" and "despicable," he should remember that there is at least nothing noble in an unreasoning aversion.

Next we proceed to Intuitionism, which takes three forms, according as it is held to give particular judgments, general axioms, or a philosophic basis. The last, though nominally a sub-class, seems to include all 'methods of Ethics' recognised by Mr. Sidgwick not included in the two former: so that when the two former are disposed of as not capable of supplying measures sufficiently precise to be elevated into scientific axioms, the chapter on 'Philosophical Intuitionism' is really an enquiry whether our Moral Faculty can supply any ethical axioms (besides that of Egoism) which have at once scientific precision and positive content. Mr. Sidgwick believes that it can supply two such, and that one of these involves "the suppression of Egoism". He takes them from Clarke, and calls them respectively the Rule of Equity and the Rule of Benevolence.

The first is as follows: "Whatever I judge reasonable or unreasonable that another should do for me, that by the same judgment I declare reasonable or unreasonable that I should *in the like case* do for him" (p. 358). This is the principle of the "objectivity" (as Mr. Sidgwick calls it) of rightness. I have already tried to show that it is either an assertion that morality follows the physical law of uniformity (*i.e.*, that mere difference of individuality in moral agents, as in atoms, does not effect the result, which is precisely *similar* under all *similar* conditions) in which sense I gladly accept it as a testimony from consciousness to the possibility of a Physical science of Ethics; or if "the like case" does not include the like internal natures of agent and recipient, that it is not only no axiom but plainly repugnant

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to common sense. Mr. Sidgwick, if I understand him rightly,* takes it in the latter sense, and yet holds it an axiom. Let me put to him an illustration. He says that it is a duty to seek one's own happiness (p. 304). But to determine what is a man's happiness, you have to look at his character and disposition, just as a meal fit for Milo is too large for an ordinary man. How, then, can duty be independent of the character of the agent? Or to take the converse, on what principle is it allowable (as Mr. Sidgwick says it is) to tell a lie to a lunatic?

The second rule, which as the supposed suppressor of Egoism I approach with more awe, is stated by Clarke as follows (p. 309): "If there be a natural and necessary difference between Good and Evil; and that which is Good is fit and reasonable, and that which is Evil is unreasonable, to be done: and that which is the Greatest Good is always the most fit and reasonable to be chosen: then as the Goodness of God extends itself universally over all His works throughout the whole creation, by doing always what is absolutely best in the whole: so every rational creature ought, in its sphere and station, according to its respective powers and faculties, to do all the Good it can to its fellow-creatures: to which end, universal Love and Benevolence is plainly the most certain, direct, and effectual means." The premisses here seem three: (1) It is reasonable to do the greatest good; (2) There is a God, and His goodness is the greatest; (3) The goodness of God can be known apart from ours, and comprises Benevolence to all His works. The second and third would hardly now-a-days be accepted as self-evident truths. Even if modified as far as possible to suit modern 'common sense,' they would at least involve the very controverted hypothesis of a moral government of the universe on optimist principles. But suppose them granted—what follows? Clearly that 'every rational creature' ought to do good not 'to its fellow-creature,' but 'to all its works'; in other words, *to itself*. If God's goodness is the ideal, and consists in doing good to 'His works,' *i.e.*, to Himself, how can a man possibly imitate this ideal by doing good *to others?* Mr. Sidgwick says he thinks the reasoning of Clarke "substanti-

* In a note to p. 183 Mr. Sidgwick says that "difference of circumstances must be taken to include difference of nature and character – in short, all differences beyond the mere individuality of different individuals". If this be his theory, I rejoice; but I cannot reconcile it with what he says elsewhere, or even on that same page when he contrasts ethical judgments with judgments as to sensations of taste as being really instead of only apparently 'objective'. As I have shown, Mr. Sidgwick holds that two persons cannot differ and both be 'objectively right' (*cf.* pp. 6, 190 n., 364).

ally sound"; to me, I confess, it appears a paralogism of the grossest kind.

However, Mr. Sidgwick admits that "to exhibit it as clear and cogent, considerable modification in form is needed". This is the form he gives (p. 360): "We are supposed to judge that there is something intrinsically desirable—some result which it would be reasonable for each individual to seek for himself, if he considered himself alone. Let us call this the individual's Good or Welfare: then what Clarke urges is that the Good of any one individual cannot be *more* intrinsically desirable, *because it is his*, than the Equal Good of any other individual. So that our notion of Ultimate Good, at the realisation of which it is evidently reasonable to aim, must include the Good of *every* one on the same ground that it includes that of *any* one. This seems to be as much a self-evident truth as the principle of Equity." Perhaps so; to me also the two principles seem pretty equal in that respect. The premisses seem again three in number: (1) I reasonably desire my own good or welfare; (2) What is reasonable under any given circumstances is right under all precisely similar circumstances; and (3) "The fact that I am I" (as Mr. Sidgwick expresses it) is not a material circumstance. I admit these premisses. What then follows? Two inferences seem logically deducible. From (1) and (2) it follows that 'it is reasonable for me to desire all welfare which stands in precisely similar circumstances to my own'. One of these is that it is 'my own,' but this by (3) is unimportant. But another is that it is actually desired by me. Hence we conclude that 'it is reasonable for me to desire all welfare, which I desire equally with my own'. This is evidently not what we seek. Next let us combine (1) and (3): it follows that 'all men reasonably desire their own welfare'. For surely the result of 'universalising the maxim, 'I seek my own good,' is 'All men seek their own good,' not 'I seek all men's good'. If so, how does Mr. Sidgwick elicit the latter conclusion?

Mr. Sidgwick repeats the argument at p. 365* in the following condensed form: "The fact 'that I am I' cannot make *my* happiness intrinsically more desirable, more fit to be accepted by my reason as the standard of right and wrong in conduct, than the happiness of any other person". It is certainly not more fit to be accepted as the standard of right and wrong in *my* conduct, than the happiness of any other person *in his*. But to say that happiness is "the standard of right and wrong in

* The argument is substantially repeated in the same form in other places (*e.g.* at p. 367). But I do not find any statement of it containing any new element.

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conduct" means that A's happiness is the standard of A's conduct, though of course the fact that A is A does not matter in the sense that B would not be an equally good example: and in the alternative expression of the premiss, which considers desire or desirability, its distributive nature is still more apparent.

This seems to me so evident, that I long thought it impossible for so clear-headed a writer as Mr. Sidgwick to have fallen into so obvious a fallacy, and I have read his various statements of this argument through many times in order to find some more substantial ground for his conclusions, but I confess without success: nor indeed can I imagine what other premiss he can supply, while I am clear that from the premisses I have stated no such conclusion as "the suppression of Egoism" can be evolved. I think the source of Mr. Sidgwick's error is traceable in the words "intrinsically desirable".* These words seem to have no meaning; desire must be felt by somebody, either the individual whose good is in question, or some other person. On the first alternative the premiss is that a man's own good is 'intrinsically desirable' to himself, from which it is impossible by any mere logical artifice to show that one man's good is 'intrinsically desirable' to another; on the second alternative the premiss is that a man's good is desirable to other people, and this is the very question to be proved. Mr. Sidgwick seems to have first convinced himself that Good is something 'objective' or 'universal,' and then to have argued that this must mean something independent of individuals altogether, whereas (as I have already tried to show) it may consist in a *universal relation* to individuals. The laws of nutrition of animals are clearly objective and universal, but surely Mr. Sidgwick would not argue that because my dinner is not 'intrinsically' more worthy of digestion than another's, therefore it is reasonable for me to digest all men's dinners, or even as much as I can of the dinners of as many men as possible. Yet I confess that "this seems to be as much a self-evident truth as the principle of Equity," or the principle of Benevolence.

* I may compare his use of the word in another passage (p. 316) where he says that "truths may be intrinsically self-evident which are yet not commonly seen to be so". Of course all truths are 'self-evident' to omniscience, but this is clearly not Mr. Sidgwick's meaning. I cannot even guess what it is. It is at least 'self-evident' *to me* that a truth, if evident at all, must be so to *somebody*. This confusion of thought is still more apparent in a subsequent assertion (p. 320) that "it is implied in the very notion of Truth that it is intrinsically the same for all minds". Surely the word 'intrinsic,' if it mean anything, excludes relation, so that to talk of a thing being 'intrinsically' perceived, or evident, or desirable, is a contradiction in terms.

That this was the source of Mr. Sidgwick's error seems confirmed by a recapitulation of the argument which he gives at p. 391, in which he says that it is effectual against the Egoist only if the latter put his proposition in the form that "his happiness is objectively desirable," and not if he put it in the form "that he ought to take his own happiness as his ultimate end". But why should the Egoist put it in that form? He would be very foolish to do so, for it is not what he means. His proposition is, 'Own happiness is desirable to each,' or, if you like, 'is *objectively* desirable,' and against this statement the Universalist is powerless, simply because it makes his paralogism evident. Let me take a parallel instance. If I say 'I see what my eyes show me,' no Universalist could argue from that to show me that I see, or ought to see, what all men's eyes see. But if I were foolish enough to say, 'What I see is objectively visible,' the Universalist might argue, 'What you see cannot be more objectively visible than what any other person sees, for the mere fact that you are you can have nothing to do with objective visibility,' and might conclude that I ought reasonably to see what all men saw. But when I put it, 'What each man sees is visible to him,' my Egoism is invulnerable.

I may remark in conclusion that even if the proof were admitted, it would be a deduction from Egoism, for Egoism is one of its data; and a conclusion can never be more valid than its premisses. At most the voice of 'Reason' would be divided, and we should have to seek counsel elsewhere.

The examination of Kant adds no fresh argument, and the conclusion of the whole matter is that the only axioms given *intuitively* by 'Common Sense' or 'Reason' are that Good is 'objective' and 'universal'. Now, since Reason has been defined as the faculty of apprehending moral distinctions (p. 23) as "a faculty which takes cognisance of objective truth" (p. 27), and as "the faculty of apprehending universal truth" (p. 85), we could have told at once that Reason would affirm that "moral distinctions" were "objective" and "universal," for that is contained in the definition: the only question, then, would be as to the existence of a faculty as so defined, and that is "assumed" by Mr. Sidgwick with an express refusal to argue the point. The result, therefore, seems to be that on the assumption of such a faculty there is such a faculty. For myself, I am quite ready to admit its existence; and the conclusion to which I say it leads, and to which I say that, assuming its existence, Mr. Sidgwick has proved that it leads, is the principle of Egoistic Hedonism, as the objective or universal law of morality. That he has seemed to reach another conclusion is due, not to any

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fault in his analysis of the moral dicta of Reason, which seems to me to be admirable, but to a slip of reasoning which need only be pointed out to be recognised. That Hedonism of some kind is the verdict of Reason as against other ends he shows clearly in Book III., ch. xiv.; he also shows that Egoism is the form of Hedonism which Reason originally dictates, but that this must be universal. I quite agree; but I say, Universal Egoism is not Utilitarianism—and no logical jugglery will make one out of the other.

In his concluding chapter Mr. Sidgwick seems to give up his proof of Utilitarianism from Egoism, for he feels it necessary to seek for further sanctions of the principle of Utility than the "proof" by Reason. His conclusion is that we must "assume" a harmony of the two, because otherwise moral science is impossible, for reason is divided against itself. This harmony is "a hypothesis unverifiable by experiment," without which "the Cosmos of Duty is reduced to a Chaos, and the prolonged effort of the human intellect to form a perfect ideal of rational conduct is seen to have been fore-doomed to inevitable failure". This is a sad ending, that the only ground for believing that moral science exists is the waste of time which we have been making if it does not. I cannot refrain, therefore, in conclusion, from trying to comfort Mr. Sidgwick by the suggestion of a 'hypothesis' which accounts for what I admit to be proved by the analysis of the dicta of the Moral Faculty, *viz.*, the simultaneous presence in Reason of the Egoistic and Utilitarian principles, and reconciles them on a principle wider than both. It is a suggestion in its rudiments as old as Plato, but which, like many other happy guesses of Greek genius, has received a new meaning from physical science.

The end of all action is pleasure of the actor, and an action is good or right in proportion as it intentionally attains the end. If the actor be an organism or polity of members, his acts have two relations, one internal, the other external. His morality, therefore, has two sides, which may be called respectively the Law of Health and the Law of Conduct; and these vary in relative importance according to the completeness of organisation to which the actor has reached, that is, according as Evolution is for the time being more engaged in perfecting him as a unit or connecting him with other units into a higher organism. As unit organisms are gradually organised into higher organisms, the Law of Health of the higher organism and the Law of Conduct of the unit organisms are concurrently operative on the same unit organisms as codes for regulating their external relations; and though these codes serve different

functions, and are regulated by different ends, they are fundamentally the same, because they are different products or branches of the same physical law. Now the unit organism which we are principally concerned with is the individual man, and the most important higher organism of which he is the unit is the state or society. The Law of Conduct of the unit is Ethics and its principle is Egoism, and the Law of Health of the higher organism is Jurisprudence and Sociology, or, in the classical sense of the word, Politics, and its principle is Utilitarianism, *i.e.*, not 'the greatest happiness of the greatest number' of units, but the happiness of the *whole.* Hence in the human reason, which is an echo of human experience, that is, of internal egoistic desires and of external family, social, and political influences, the two principles of Egoism and Utilitarianism *must* be mixed; and if we analyse the common sense of mankind we need not be surprised to find a deep-lying principle of Egoism which will not be reasoned with because it is the old essential nature of the man, and an apparently later growth of Utilitarian maxims which rest their claim on the general assent of mankind rather than on the inner nature of each individual man. This is just what we should expect, and just what Mr. Sidgwick has found.

But man is not individual and citizen alone. Human life, as we live it, is a complex of relations. Besides his relation to nature which constitutes him an individual and gives content to his simplest Egoism, he is a member of a family, a profession, a social circle, a race, a country, and finally of an ideal society within his breast, a 'kingdom of heaven' whose voice is his own best feelings, his inner prescience of coming evolution, and whose omniscience he cannot hope to elude, because it is his own knowledge of himself. Each of these organisms impresses its Law of Health upon his actions and conscience, and so are produced in him the conceptions of 'duty' to his family, his friends, his country, and his God. If we ask *how* each of these Laws of Health impresses itself upon his moral nature, in other words, what is the *motive* to all these different Utilitarianisms, the answer would be that inasmuch as the essence of morality is that the ἀρχή should be internal, they can effect him morally only through his nature, by becoming part of it. This they do by artificially modifying his motives, *i.e.*, either by altering the consequences of his actions (as by reward or punishment, praise or blame), or by altering his belief as to those consequences—in other words, the *Ethical* value of Utilitarianism of whatever kind can only be as a *method* of Egoism. Similarly we might say that the Political or Social value of Egoism is only as a material of Utilitarianism, just as the Ethical value of Health is as a material of Egoism. Further development of the Physical System would

be here out of place, but I contend that it is a 'hypothesis' which not only, if true, explains the relation of Egoism and Utilitarianism, but is also 'verifiable by experience'. If it be verified, Ethical Science will stand on a firmer foundation than the sorrow we should feel if it were not true.*

ALFRED BARRATT.

IV.—THE SO-CALLED ANTINOMY OF REASON.

MENTAL action is known to us in one or other of three states, namely, awake or asleep or in an intermediate state which may be called somnolent. When awake the mind is simultaneously aware both of its actual surroundings and of itself. In normal sleep it has ceased to be aware of its actual surroundings and is unconscious. And in the somnolent state it is what may be called half-conscious. It may be obscurely aware of its surroundings or obscurely aware of itself but not of both simultaneously. Thus the light of the morning may awake the sleeper and he may *see* before the thought of *self* or any inner feeling at all has awoke. In all ordinary cases of awaking out of sleep, feeling is indeed imminent or immediately consequent upon perception. But the two, the objective and the subjective, are not only separable in analysis, they are occasionally separable also in time. Supposing the term sensibility to imply feeling and the term perceptivity to imply merely a capacity of being impressed by an object in some way that is somehow representative of that object, perceptivity is a simpler function than sensibility. Leibnitz in laying hold of perceptivity as the elemental conception of mind, was more happy and opened the way to a larger, a more harmonious, and philosophical conception of the universe than Kant who placed sensibility in this position. Those who insist upon both as inexorably given simultaneously, and who maintain that sub-

* Since the foregoing paper was in print, I have seen Mr. F. H. Bradley's elaborate examination of *The Methods of Ethics*. His criticism and mine are curiously divergent; but there is at least one of his beliefs, which he mentions incidentally, in which we are agreed—namely, that the only consistent Hedonism is Egoistic. Even that, however, he would take as an argument *against Hedonism* (for I fear he would not waste much politeness over the mental or moral qualities of an Egoist); whereas I have ventured to consider it an argument *for Egoism*. The difference between Mr. Bradley and myself, though it looks enormous, is in reality curiously small. I quite agree that Virtue is the Realisation of the will; only I add, the will is Pleasure. This I fear he will consider an 'irreducible minimum'. However, even that is sometimes got over; and a question of fact, which I hold this to be, should never be irreducible.

ject-object is the primal, the inseparable and true unity, and the only warrantable basis of philosophic belief, can never get beyond it. While appealing to consciousness as their supreme authority, they do violence, when they have proceeded but a little way, to that cumulative testimony of mankind which goes by the name of common sense; which nevertheless philosophy must respect if it is ever to be suitable for general culture, and to contribute to the intellectual and moral advancement of humanity.

The co-existence (so far as can be discovered) at the same moment of subject and object in the mind, that is, the existence of subject-object as the undivided and seemingly indivisible datum of the mental functioning, is not a state of things in which mind must be always unavoidably and necessarily involved. It is on the contrary only the product of a rhythmical action in mind that is proper to the waking state, depending on a corresponding somatic rhythm which may be roughly compared to the polarised state in the merely dynamic economy of nature.

At any rate in this two-fold mode of mental action which manifests at once the outward and the inward, the objective and the subjective, there may be detected a notable difference between the two phases in which it consists. In that which gives the objective, the mind is merely receptive and may be somnolent. Its principal relations are, as we may say, cosmical. That which gives the subjective wakes up in affirming what the other presents to belief. But this is not all; it forthwith proceeds to constitute consciousness, that is, to make place for itself in the midst of the inflowing tide of intuitions or informations, to defend itself against encroachments, to aggrandise itself, and ultimately to exclude or deny what the cosmical relation presents to belief, and which it is the first duty of the mind to affirm. As the former phase has been said to be cosmical, constitutional, spontaneous, merely a capacity—in function afferent or inbringing, so may this be said to be personal and volitional or of the nature of a power—in function efferent or aggressive. In brief and more familiarly, the former is the mind in its naturally synthetic phase of mental action; the latter is the mind in its analytic phase. And in one or other of these phases, usually in both simultaneously, more or less, and in none others, the mind as an intellectual agency always is when the individual is awake.

During sleep, the volitional, the analytical, phase retreats as it were or sheathes itself in the spontaneous, the synthetic phase, and leaves the mind simply intuitional or informational. Not that an undisturbed intuition of reality ensues, because the mind when in the brain is like a magnetic compass in the hold of an iron ship, which instead of pointing steadily to the pole reels

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about, and if believed would mislead. Similarly during sleep, instead of a simple listening for impressions or an open steady intuition of reality, there is induced in all ordinary cases a careless play of mind and the presentation of only a mock-reality, a creation of the imagination—a dream.

Between these two phases of mental action it is further needful to be remarked that the cosmical, the spontaneous, the synthetic phase, however long-continued, implies no exhaustion of mental energy but rather the reverse, and therefore tends to pass through reverie into ecstacy; while the volitional, the personal, the analytical phase, being the outcome of the personal energy, does imply exhaustion and is ever liable to discharge itself in motion. Nevertheless this dynamic inequality between the two phases exists in the interest of the real and the true, provided error be not already in possession of the mind. Where this is the case then on the contrary, this liability of the analytic power to weakness in the weak and mere emotion in the strong gives rise to a general liability to believe what may not be belief-worthy, in one word, to credulity.

Supposing the mind thus awake, aware both of itself and its environments, to exist in the midst of any panorama, then, whilst its cosmical or synthetic phase secures to it a belief in the existence of that panorama, its analytical, volitional or personal phase, acting as *selective attention* or as it is more generally named *abstraction*, can vivify to any extent it pleases individualised objects in the given panorama, the mind becoming blind to object after object till they are all gone. The question is what remains of the original panorama as matter of direct and immediate intuition, the surviving datum of the sustained synthetic phase of the mental state? To this the answer is that there remains the intuition of the place where the now vanished objects were; there remains the intuition of room for any individualised objects which may be introduced again into the ambient where objects were before; there remains the intuition of SPACE implying a condition of the possibility of external objects, a conviction so deep-seated and constitutional that it is impossible to deny it or to conceive it to be otherwise.

Nor is there given to the mind in virtue of its synthetic phase, when in its place in nature, an intuition of Space only; it also obtains and cannot escape from an intuition of BEING or that which exists. This intuition indeed flows from a two-fold source and stands on a double basis, namely the inward manifestation of the mind to itself and the outwardly experienced fact producing the conviction that the intuition of space has in it more than mere emptiness, has in it, in a word, that for which there is no mistake in naming it Being.

Moreover, these intuitions of Space or immensity, and of Being or existence, when thus given by the mind in its cosmical or synthetic phase, are given wholly without limits, and not negatively but positively INFINITE. During the phase of mental existence which we have been considering, no limit has appeared. The idea of a limit has not yet emerged. There is nothing as yet to embarrass or stop the influence of the intuition in that character which the intuition itself ascribes to its object, namely Infinity. And here let us remark that the acceptance or the rejection of this view ought to depend entirely on what may be called the natural-history character of the intuition by those who have that intuition, not on the issue of an analysis which, though designed to be merely searching, yet so often proves to be destructive. Now the place which the idea of the Infinite has taken and holds in the history of humanity, especially in the most enlarged and elevated minds of all ages, demonstrates in a natural-history point of view that the Infinite is not a merely negative but a truly positive object. But it is not to be forgotten that during the state which we have been considering the embodied mind is supposed to be, although conscious, yet on the eve of sleep, the personal activity being in abeyance. That such a state of naked intuition does occur occasionally in the spontaneous course of life must, I think, be admitted. Nor are we, the victims of the over-activity of the West, as appears to me, warranted in denying what the meditative minds of the East affirm, that such a state is attainable by education—by a life-long discipline of contemplation and repose.

When we are fully awake as in all ordinary states of thinking, when the personal, the volitional, the analytic phase of mind is in action, a remarkable change comes over the previous character of our intuition. Conception then takes the place of simple intuition. Definition or an attempt to define everything, and in every case a LIMIT, then emerges. And it is reproduced as often as the recurrence of the previous state of intuition puts it out of the way.

The reason of this is that the mind when acting as a specially individualised being, itself limited in energy as it ever is and ever must be, co-ordinates and ever must co-ordinate its views of things with itself as its principal object of regard. This, the cosmical law of assimilation compels. What the primal intuition gives therefore to the mind as a pure receptivity, the personal functioning being in abeyance and reality truly mirroring itself in the reposing soul, (in which case reality is felt and seen to be infinite and absolute), the mind when acting out from itself reflectively, volitionally, personally finds to be like itself finite and conditioned.

Hence the infinitude, the boundlessness of space, as given in the pure intuition of it, is interfered with. A limit is fixed upon. And though the primal intuition as often as it recurs obliterates that limit and carries thought beyond it, yet in the next fit of the mind's personal action the limit is reproduced. But it is now more distant than before. And so on alternately as long as any one pleases. The ultimate view is thus a conception of a sphere, the mind in the centre and the periphery too distant to be considered. Yet a periphery is affirmed to exist somewhere, because the mind's own activity is more important to itself than its receptivity of impressions, and therefore it claims the last word.

The same phenomenon occurs when, instead of thinking of space in all its immensity, we think of it as the smallest volume conceivable. The personal activity comes in here as before, but now to exhaust space or bring it to a close. No such issue however is possible. In virtue of the infinitude of the primal intuition, a volume still remains after every act of dichotomy—I do not say after every section, for space is essentially continuous and cannot be divided. When it is cut into, it exists in the partitionments the same as on their sides. Instead of being infinitely divisible as is commonly said, space is not divisible at all. It is absolutely fixed as well as infinitely extended.

In these respects Space differs from Being, from matter for instance. Thus let the atom, the true material element, be merely a centre of force so that the extension of body shall be produced by centres of force in juxta-position, balanced at proper distances from each other by their reciprocal attractions and repulsions, then as there is a natural so is there a logical limit to divisibility when these elements are separated or viewed as separate from each other; for a centre is that which has indeed position in space but has not space within itself. It has no volume or magnitude to supply a field for the mind in its analytic phase to affirm infinite divisibility of it. And following so far in the footsteps of Leibnitz and Boscovich by the aid of the discoveries of modern chemistry, I have shown that on such a view of matter the phenomena of the molecular world may be explained to an unprecedented extent, and indeed without limit.

The view which we have obtained by banishing from thought all individualised objects, and leaving only what cannot be got rid of, has given us as necessary or unavoidable intuitions absolute being and sufficient and therefore infinite room for it or space. And these intuitions are so blended, so simultaneous and united, that when they first come in they do not force upon the mind the idea of change. Nevertheless they are a couple. They imply an alternative. And the mind in its activity and natural restlessness soon shifts and varies its regard from the one to the

other, and thus feels a change, and remembering it marks a difference and makes it the object of reflection. And thus the mind becomes cognisant of change and succession, and consequently of duration, in a word, of TIME. Time thus comes into the mind as the medium or possibility of change. So far then it is analogous to space. Like space it is a field for the occurrence of phenomena. But both in its genesis and in its relations time differs remarkably from space. Thus space is discovered to the mind in its synthetical, its cosmical, its spontaneous and unavoidable phase of action. Time is discovered and we may say created by the mind in its personal, its analytical, its volitional phase of action. Space is a manifestation in the objective or outward field of thought, time in the inner. Nevertheless there is such reciprocal urgency between the ideas of space and time, that it may be questioned whether it is possible to think of mere or pure time without the idea of space intruding itself into the thought. Thus whenever there is in the mind the idea of time there must be simultaneously the cognisance or conception explicitly or implicitly of at least two distinguishable objects. Now in consequence of this, though the pure idea of time regards them only as successive, yet the imminence, the constant presence, of the idea of space is ever apt to interpose the thought that there is some distance between them, and so to mix up the idea of space with that of time. Hence nothing more common even in philosophic works than to find the author speaking of a 'space of time' instead of a 'duration of time'. In consequence of the poverty of language indeed it is impossible to avoid speaking of 'the length of time', 'the shortness of time', though these terms apply literally to space only.

Hence also the degradation of both ideas when space is spoken of as extensive quantity, and time as protensive quantity, conceptions which apply only to volume and movement not to space or time at all.

It is this confusion which prevents our being able to think of a beginning or an end of time. In itself the thought is as easy as is the thought of a beginning or an ending of change. This, it may be said, is impossible also. And so no doubt it is, so long as the consciousness or the surreptitious influence of life enters into our thought; for life is change. For a like reason it is impossible, while the doctrine of cause is in possession of the mind; for life is cause as well as change. But as to mere time, succession, duration, that which the observation of change imparts to the mind, it must cease when all observation of change ceases. To a Being with whom there is no variableness nor shadow of turning, there can be no past, no future, all must be one present panorama. There is no field for time. Eternity in that case holds the place

of time. Now this idea—Eternity—is not, as nevertheless it seems to be, the synthetic conception of all times considered as one. Eternity is not the totality of time. Thought, when from time it has slid into eternity, has unconsciously changed its ground, and is in point of fact contemplating the infinite. The thought which is the product of the personal activity has given place to that which is given by the cosmical intuition.

There is nothing therefore which is merely poetic and figurative in the anticipation of an epoch when time shall be no more. It is rather a promise to the soul of a higher mode of intuition, when it has attained the lucidity of a true repose, when, as the Buddhist philosophers say, "the pride of the I am is subdued."

The tenet that an absolute beginning and an absolute ending of time are unthinkable is the result of confusion of ideas and defective analysis. What is thought of as the ground of such an affirmation is not "pure time" but "space of time," not the field of change but the field of existence. The latter is indeed truly beginningless, truly unending; and to attempt to estimate it by adding time to time or volume to volume, or in any way by the use of the personal or analytical power of the mind, is vain. A sum of numbers or of forms, however great or vast, remains for ever infinitely short of the infinite. This is a simple indivisible intuition given to the mind when reposing in its cosmical relation. All attempts whether to realise or to deny it by the exercise of the personal, the volitional, the analytical action of the mind are misapplied and futile. The alternate affirmation and denial by the mind of the absolute, the infinite, is not a valid contradiction. It is not an antinomy in reason. It is only the result of a mistake in the use of reason, or rather indeed of reasoning. That which the philosopher of Königsberg called the practical reason is best entitled to the name of reason without any qualification. It is the information of the mind when functioning in its cosmical phase and lighted up by intuition with all the greatest cosmical truths. The question as to the way in which the embodied mind comes to be possessed of these truths, whether at once by the imminence, the penetrative power, and the immediate impressiveness upon it of the corresponding realities, or piece-meal by Zoic development and the synthesis of lower instincts, need not be considered. Our mental inability to grasp and see through combinations which are manifold, and our consequent demand for that which is simple and easily conceivable, will always secure a popular vote in favour of development. Meantime the knowledge of the fact is the main thing. And intuition in man cannot be cogently denied so long as instinct in animals is granted. Surely, too,

we ought to pay the greatest respect to intuition so far as it is verified by reality, since all that we can do by way of reasoning and demonstration is to infer identity—not where there is no difference but—where no difference appears to us.

J. G. MACVICAR.

V.—'CRAM.'

A HUMAN institution has like man its seven ages. In its infancy unknown and unnoticed, it excites in youth some interest and surprise. Advancing towards manhood, every one is forward in praising its usefulness. As it grows up and becomes established, the popular tone begins to change. Some people are unavoidably offended or actually injured by a new institution, and as it grows older and more powerful, these people become more numerous. In proportion to the success of an undertaking, will be the difficulties and jealousies which are encountered. It becomes the interest of certain persons to find out the weak points of the system, and turn them to their private advantage. Thus the institution reaches its critical age, which safely surmounted, it progresses through a prosperous middle life to a venerable old age of infirmities and abuses, dying out in the form of a mere survival.

There is no difficulty in seeing what period of life the examination-system has now reached. It is that critical age at which its progress is so marked as to raise wide-spread irritation. To abuse examinations is one of the most popular commonplaces of public speeches and after-dinner conversation. Everybody has something to say in dispraise, and the reason is pretty obvious. Many persons have been inconvenienced by examinations; some regret the loss of patronage; others the loss of patrons and appointments; schoolmasters do not like having their work rudely tested: they feel the competition of more far-sighted teachers who have adapted themselves betimes to a new state of things. In these and other ways it arises that a formidable minority actually have good grounds for hating examinations. They make their feelings widely known, and the general public, ever ready to grumble at a novelty of which they hear too much, and do not precisely appreciate the advantages, take up the burden of the complaint.

Fortunately, too, for the opponents of examination, an admirable 'cry' has been found. Examination, they say, leads to 'cram,' and 'cram' is the destruction of true study. People

who know nothing else about examination know well enough that it is 'cram'. The word has all the attributes of a perfect *question-begging epithet.* It is short, emphatic, and happily derived from a disagreeable physical metaphor. Accordingly, there is not a respectable gentleman distributing prizes to a body of scholars at the end of the session, and at a loss for something to say, who does not think of this word 'cram,' and proceed to expatiate on the evils of the examination-system.

I intend in this article to take up the less popular view of the subject and say what I can in favour of examinations. I wish to analyse the meaning of the word 'cram,' and decide, if possible, whether it is the baneful thing that so many people say. There is no difficulty in seeing at once that 'cram' means two different things, which I will call 'good cram' and 'bad cram'. A candidate, preparing for an important competitive examination, may put himself under a tutor well-skilled in preparing for that examination. This tutor looks for success by carefully directing the candidate's studies into the most 'paying' lines, and restricting them rigorously to those lines. The training given may be of an arduous, thorough character, so that the faculties of the pupil are stretched and exercised to their utmost in those lines. This would be called 'cram' because it involves exclusive devotion to the answering of certain examination-papers. I call it 'good cram'.

'Bad cram,' on the other hand, consists in temporarily impressing upon the candidate's mind a collection of facts, dates, or formulæ, held in a wholly undigested state and ready to be disgorged in the examination-room by an act of mere memory. A candidate, unable to apprehend the bearing of Euclid's reasoning in the first book of his *Elements,* may learn the propositions off by heart, diagrams, letters and all, like a Sunday scholar learning the collects and gospels. Dates, rules of grammar, and the like, may be 'crammed' by mnemonic lines, or by one of those wretched systems of artificial memory, teachers of which are always going about. In such ways it is, I believe, possible to give answers which simulate knowledge, and no more prove true knowledge, than the chattering of a parrot proves intellect.

I am far from denying the existence of 'bad cram' of this character, but I hold that it can never be advantageously resorted to by those who are capable of 'good cram'. To learn a proposition of Euclid by heart is far more laborious than for a student of moderate capacity to master the nature of the reasoning. It is obvious that all advantages, even in an examinational point of view, are on the side of real knowledge. The slightest lapse of memory in the bad 'crammer,' for instance the putting of wrong letters in the diagram, will disclose the simulated character of his work, and the least change in the conditions of the proposi-

tion set will frustrate his mnemonic devices altogether. If papers be set which really can be answered by mere memory, the badness is in the examiners.

Thorough blockheads may be driven to the worst kind of 'cram,' simply because they can do nothing better. Nor do the blockheads suffer harm; to exercise the memory is better than to leave the brain wholly at rest. Some qualities of endurance and resolution must be called into existence, before a youth can go through the dreary work of learning off by heart things of which he has no comprehension. Nor with examiners of the least intelligence is there any reason to fear that the best directed 'bad cram' will enable a really stupid candidate to carry off honours and appointments due to others. No examination-papers even for junior candidates should consist entirely of 'book-work,' such as to be answered by the simple reproduction of the words in a text-book. In every properly conducted examination, questions are, as a matter of course, set to test the candidate's power of applying his knowledge to cases more or less different from those described in the books. Moreover good examiners always judge answers by their general style as well as by their contents. It is really impossible that a stupid slovenly candidate can by any art of 'cramming' be enabled to produce the neat, brief, pertinent essay, a page or two long, which wins marks from the admiring examiners.

If we may judge from experience, too, 'bad cram' does not pay from the tutor's point of view. That this is so we may learn from the fact that slow ignorant pupils are ruthlessly rejected by the great 'coaches'. Those who have their reputation and their living to make by the success of their candidates cannot afford to waste their labour upon bad material. Thus it is not the stupid who go to the 'cramming' tutors to be forced over the heads of the clever, but it is the clever ones who go to secure the highest places. Long before the critical days of the official examination, the experienced 'coach' selected his men almost as carefully as if he were making up the University boat. There is hardly a University or a College in the kingdom which imposes any selective process of the sort. An entrance or matriculation examination, if it exists at all, is little better than a sham. All comers are gladly received to give more fees and the appearance of prosperity. Thus it too often happens that the bulk of a college class consists of untutored youths through whose ears the learned instructions of the professor pass, harmlessly it may be, but uselessly. Parents and the public have little idea how close a resemblance there is between teaching and writing on the sands of the sea, unless either there is a distinct capacity for learning on the part of the pupil, or some system of examination and reward to force the pupil to apply.

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For these and other reasons which might be urged, I do not consider it worth while to consider 'bad cram' any further. I pass on to inquire whether 'good cram' is an objectionable form of education. The good 'cramming' tutor or lecturer is one whose object is to enable his pupils to take a high place in the list. With this object he carefully ascertains the scope of the examination, scrutinises past papers, and estimates in every possible way the probable character of future papers. He then trains his pupils in each branch of study with an intensity proportioned to the probability that questions will be asked in that branch. It is too much to assume that this training will be superficial. On the contrary, though narrow it will probably be intense and deep. It will usually consist to a considerable extent in preliminary examinations intended both to test and train the pupil in the art of writing answers. The great 'coaches' at Cambridge in former days might be said to proceed by a constant system of examination, oral instruction or simple reading being subordinate to the solving of innumerable problems. The main question which I have to discuss, then, resolves itself into this:—whether intense training directed to the passing of certain defined examinations constitutes real education. The popular opponents of 'cram' imply that it does not; I maintain that it does.

It happened that, just as I was about to write this article, the Home Secretary presided at the annual prize-distribution in the Liverpool College, on the 22nd December, 1876, and took occasion to make the usual remarks about 'cram'. He expressed with admirable clearness the prevailing complaints against examinations, and I shall therefore take the liberty of making his speech in some degree my text. "Examination is not education," he said. "You require a great deal more than that. As well as being examined, you must be taught. . . . . In the great scramble for life there is a notion at the present moment of getting hold of as much general superficial knowledge as you can. That to my mind is a fatal mistake. On the other hand, there is a great notion that if you can get through your examination and 'cram up' a subject very well, you are being educated. That, too, is a most fatal mistake. There is nothing which would delight me so much, if I were an examiner, as to baffle all the 'cramming' teachers whose pupils came before me" (laughter).

Let us consider what Mr. Cross really means. Examination, he says, is not education; we require a great deal more; we must be taught as well as be examined. With equal meaning I might say, 'Beef is not dinner; we want a great deal more; we must have potatoes, bread, pudding, and the like'. Nevertheless beef is a principal part of dinner. Nobody, I should

think, ever asserted or imagined that examination alone was education, but I nevertheless hold that it is one of the chief elements of an effective education. As Mr. Cross himself said in an earlier part of his speech, "the examination is a touchstone and test which shows the broad distinction between good and bad. . . . You may manage to scramble through your lessons in the 'half,' but I will defy you to get through your examinations if you do not know the subjects."

Another remark of Mr. Cross leads me to the main point of the subject. He said—"It is quite necessary in the matter of teaching that whatever is taught must be taught well, and nothing that is taught well can be taught in a hurry. It must be taught not simply for the examination, but it must sink into your minds, and stay there for life."

Both in this and his other remarks Mr. Cross commits himself to the popular but wholly erroneous notion that what boys learn at school and college should be useful knowledge indelibly impressed upon the mind, so as to stay there all their lives, and be ready at their fingers' ends. The real point of the objections to examination commonly is, that the candidate learns things for the examination only, which, when it is safely passed, he forgets again as speedily as possible. Mr. Cross would teach so deliberately and thoroughly that the very facts taught could not be forgotten, but must ever after crop up in the mind whatever we are doing.

I hold that remarks such as these proceed from a wholly false view of the nature and purposes of education. It is implied that the mind in early life is to be stored with the identical facts, and bits of knowledge which are to be used in after life. It is, in fact, Mr. Cross and those who think with him, who advocate a kind of 'cram,' enduring it is true, but still 'bad cram'. The true view of education, on the contrary, is to regard it as a course of training. The youth in a gymnasium practises upon the horizontal bar, in order to develop his muscular powers generally; he does not intend to go on posturing upon horizontal bars all through life. School is a place where the mental fibres are to be exercised, trained, expanded, developed, and strengthened, not 'crammed' or loaded with 'useful knowledge'.

The whole of a youth's subsequent career is one long course of technical 'cramming' in which any quantity of useful facts are supplied to him *nolens volens*. The merchant gets his technical knowledge at the clerk's desk, the barrister in the conveyancer's offices or the law courts, the engineer in the workshop and the field. It is the very purpose of a *liberal education*, as it is correctly called, to develop and train the plastic fibres of the youthful brain, so as to prevent them taking too early a

definite 'set,' which will afterwards narrow and restrict the range of acquisition and judgment. I will even go so far as to say that it is hardly desirable for the actual things taught at school to stay in the mind for life. The source of error is the failure to distinguish between the *form* and the *matter* of knowledge, between the facts themselves and the manner in which the mental powers deal with facts.

It is wonderful that Mr. Cross and those who moralise in his strain do not perceive that the actual facts which a man deals with in life are infinite in number, and cannot be remembered in a finite brain. The psychologists, too, seem to me to be at fault in this matter, for they have not sufficiently drawn attention to the varying degrees of duration required in a well organised memory. We commonly use the word Memory so as to cover the faculties of Retention, Reproduction and Representation, as described by Hamilton, and very little consideration will show that in different cases we need the powers of retention, of suggestion and of imagination in very different degrees. In some cases we require to remember a thing only a few moments, or a few minutes; in other cases a few hours or days; in yet other cases a few weeks or months: it is an infinitesimally small part of all our mental impressions which can be profitably remembered for years. Memory may be too retentive, and facility of forgetting and of driving out one train of ideas by a new train is almost as essential to a well-trained intellect as facility of retention.

Take the case of a barrister in full practice, who deals with several cases in a day. His business is to acquire as rapidly as possible the facts of the case immediately before him. With the powers of representation of a well-trained mind, he holds these facts steadily before him, comparing them with each other, discovering their relations, applying to them the principles and rules of law more deeply graven on his memory, or bringing them into connection with a few of the more prominent facts of previous cases which he happens to remember. For the details of laws and precedents he trusts to his text writers, the statute book, and his law library. Even before the case is finished his mind has probably sifted out the facts and rejected the unimportant ones by the law of obliviscence. One case done with, he takes up a wholly new series of facts, and so from day to day, and from month to month, the matter before him is constantly changing. The same remarks are even more true of a busy and able administrator like Mr. Cross. The points which come before him are infinite in variety. The facts of each case are rapidly brought to his notice by subordinates, by correspondence, by debates in the House, by deputations and interviews,

or by newspaper reports. Applying well-trained powers of judgment to the matter in hand, he makes a rapid decision and passes to the next piece of business. It would be fatal to Mr. Cross if he were to allow things to sink deep into his mind and stay there. There would be no difficulty in showing that in like manner, but in varying degrees, the engineer, the physician, the merchant, even the tradesman or the intelligent artisan, deal every day with various combinations of facts which cannot all be stored up in the cerebral framework, and certainly need not be so.

The bearing of these considerations upon the subject of examinations ought to be very evident. For what is 'cram' but the rapid acquisition of a series of facts, the vigorous getting up of a case, in order to exhibit well-trained powers of comprehension, of judgment, and of retention before an examiner? The practised barrister 'crams' up his 'brief' (so called because, as some suppose, made *brief* for the purpose) and stands an examination in it before a judge and jury. The candidate is not so hurried; he spends months or it may be two or three years in getting up his differential calculus or his inorganic chemistry. It is quite likely that when the ordeal is passed, and the favourable verdict delivered, he will dismiss the equations and the salts and compounds from his mind as rapidly as possible; but it does not follow that the useful effect of his training vanishes at the same time. If so, it follows that almost all the most able and successful men of the present day threw away their pains at school and college. I suppose that no one ever heard of a differential equation solving a nice point of law, nor is it common to hear Sophocles and Tacitus quoted by a leading counsel. Yet it can hardly be denied that our greatest barristers and judges were trained in the mathematical sciences, or if not, that their teachers thought the classics a better training ground. If things taught at school and college are to stay in the mind to serve us in the business of life, then almost all the higher education yet given in this kingdom has missed its mark.

I come to the conclusion, then, that well-ordered education is a severe system of well-sustained 'cram'. Mr. Herbert Spencer holds that the child's play simulates the actions and exercises of the man. So I would hold that the agony of the examination-room is an anticipation of the struggles of life. All life is a long series of competitive examinations. The barrister before the jury; the preacher in his pulpit; the merchant on the Exchange flags; the member in the House—all are going in for their 'little goes,' and their 'great goes,' and their 'triposes'. And I unhesitatingly assert that as far as experience can guide us, or any kind of reasoning enable us to infer, well-conducted com-

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petitive examinations before able examiners, are the best means of training, and the best method of selection for those who are to be foremost in the battle of life.

I will go a step further, and assert that examination in one form or another is not only an indispensable test of results, but it is a main element in training. It represents the active use of faculties as contrasted with that passive use which too often resolves itself into letting things come in at one ear and go out at the other. Those who discuss examinations in the public papers, seem to think that they are held occasionally and for the sole purpose of awarding prizes and appointments. But in every well-ordered course of instruction there ought to be, and there usually are, frequent less formal examinations of which outsiders hear nothing. The purposes of these examinations are manifold; they test the progress of the class, and enable the teacher to judge whether he is pursuing a right course at a right speed; they excite emulation in the active and able; they touch the pride even of those who do not love knowledge much, but still do not like to write themselves down absolute blockheads; and they are in themselves an exercise in English composition, in the control of the thoughts, and the useful employment of knowledge. In direct educational effect a written examination may be worth half-a-dozen lectures. Mr. Cross says that examination is not education; I say that it is. Of course you cannot examine upon nothing, just as you cannot grind flour in a mill unless you put the grain in. Nevertheless examination in some form or other represents the really active grinding process in the pupil's mind.

It is not merely that which goes into the eyes and ears of a student which educates him; it is that which comes out. A student may sit on the lecture-room benches and hear every word the teacher utters; but he may carry away as much useful effect as the drowsy auditor of a curate's sermon. To instruct a youth in gymnastics, you do not merely explain orally that he is to climb up one pole, and come down another, and leap over a third. You make him do these motions over and over again, and the education is in the exertion. So intellectual education is measured not by words heard or read, but by thoughts excited. In some subjects mental exertion in the pupil is called forth by the working of problems and exercises. These form a kind of continuous examination, which should accompany every lecture. Arithmetic is only to be learnt by sums upon the schoolboy's slate, and it is the infinite variety of mathematical tasks from common addition upwards, which makes mathematical science the most powerful training ground of the intellect. The late Professor De Morgan was probably the greatest teacher of mathematics who ever lived. He considered it requisite that students should at-

tend his expository lectures for an hour and a quarter every day; but he always gave an abundance of exercises as well, which, if fully worked out, would take at least as long, and often twice as long a time. Exercises are the sheet-anchor of the teacher, and in this way only can we explain the extraordinary propensity of classical teachers towards Latin verses. As I have heard such teachers explain, verses though useless in every other way afford a definite measurable amount of exercise—a manageable classical treadmill. For many years past it was my duty to teach several subjects—Logic, Mental and Moral Philosophy, and Political Economy. Experience made me acutely aware of the very different educational values of these diverse subjects. Logic is by far the best, because when properly taught it admits of the same active training by exercises and problems that we find in mathematics. It is no doubt necessary that some instruction should also be given to senior students in philosophy and political economy; but it is difficult in these subjects to make the student think for himself. Examination, then, represents the active as opposed to the passive part of education, and in answer to Mr. Cross's statement that examination is not education, I venture to repeat that, in some form or other, examination is the most powerful and essential means of training the intellect.

I now pass on to the wholly different question whether open competitive examinations are the best means of selecting men for important appointments. In this view of examinations the educational results are merely incidental, and the main object is to find an impartial mode of putting the right man into the right place, and thus avoiding the nepotism and corruption which are almost inseparable from other methods of appointment. At first sight it might seem absurd to put a man in a position requiring judgment and tact and knowledge of the world because he answers rightly a few questions about mathematics and Greek. The head master of a great school succeeds not by the teaching of the higher forms, but by the general vigour and discretion of his management. He is an administrator not a pedagogue; then why choose a high wrangler, because of his command over differential equations? Why make a young man a magistrate in Bengal, because of his creditable translations from the classics, or his knowledge of English history? Would it not be far better to select men directly for any success which they have shown in the management of business exactly analogous to that they will have to perform?

Experience must decide in such matters, and it seems to decide conclusively in favour of examinations. Public opinion and practice at any rate are in favour of this conclusion. For a long

time back the honours' degrees of Oxford and Cambridge have been employed as a means of selection. It does not of course follow that a high wrangler, or a double first, will suit every important position; but it is almost always expected now-a-days that a man applying for a high post shall have some high degree. Even those who are unfettered in their powers of appointment will seldom now appoint a young man to a conspicuous post unless his degree will justify the appointment in the eyes of the public. The President of the Council, for instance, is unrestricted in the choice of School Inspectors, but he practically makes a high degreee a *sine qua non*. Not only does he thus lessen his responsibility very greatly, and almost entirely avoid suspicion of undue influence, but the general success and ability of those appointed in this manner fully bear out the wisdom of the practice.

The fact seems to be that the powers which enable a man to take a conspicuous place in a fierce competitive examination are closely correlated, if they be not identical, with those leading to success in the battle of life. It might be expected that a high wrangler or a double first would generally be a weakly book-worm, prematurely exhausted by intense study, unable to expand his mind beyond his books, and deficient in all the tact and worldly knowledge to be acquired by mixing in the business of life. But experience seems to negative such ideas. The weakly men are weeded out before they get to the final struggle, or breakdown in the course of it. The true book-worm shows himself to be a book-worm, and does not fight his way to a high place. Success in a severe examination requires, as a general rule, a combination of robust physical health, good nerve, great general energy, and powers of endurance and perseverance, added to pure intellectual ability. There are of course exceptions in all matters of this sort, but, so far as we can lay down rules in human affairs, it is the *mens sana in corpore sano* which carries a candidate to the higher part of the list.

A man must not always be set down as a blockhead because he cannot stand the examination-room. Some men of extensive knowledge and much intelligence lose their presence of mind altogether when they see the dreadful paper. They cannot command their thoughts during the few hours when their success in life is at stake. The man who trembles at the sight of the paper is probably defective in the nerve and moral courage so often needed in the business of life. It by no means follows, again, that the man of real genius will take a conspicuous place in the list. His peculiar abilities will often lie in a narrow line and be correlated with weakness in other directions. His powers can only be rendered patent in the course of time. It is

well known that some of the most original mathematicians were not senior wranglers. Public examinations must be looked upon as tests of general rather than special abilities; talent, strength, and soundness of constitution win the high place, powers which can be developed in any direction in after life.

If evidence were needed to support this view of the matter it is amply afforded by the recent Parliamentary Report on the education and training of candidates for the Indian Civil Service. Whatever may be thought as to the details of the methods of training, which have been recently modified, there can be no doubt that this report is conclusive as to the success of examinational selection. The ability of the statements furnished to this report by officers appointed by open competition goes far to prove the success of the system. It is impossible to imagine a severer test than that system has passed through in the case of the Indian Civil Service. Young men selected for the amount of Latin, Greek, Mathematics, French, German, Logic, Political Economy, and so forth, which they could 'cram up', have been sent out at 21 or 23 years of age, and thrown at once into a new world, where it is difficult to imagine that their 'crammed' knowledge could be of the least direct use. There they have been brought into contact with a large body of older officers, appointed under a different system, and little prejudiced in favour of these 'Competition Wallahs'. Yet the evidence is overwhelming to the effect that these victims of 'cram' have been successful in governing India. A large number of the best appointments have already been secured by them, although the system has only been in existence for twenty-two years, and seniority is naturally of much account. The number who are failures is very small, certainly smaller than it would be under the patronage system. It is impossible that I should within the limits of this article present the evidence accumulated on this subject. I must refer the reader to the Blue Book itself, which is full of interest for all concerned in education.* I must also refer the reader to the remarkably able essays on the subject published by Mr. Alfred Cotterell Tupp, B.A. of the Bengal Civil Service,† to which essays I am indebted for some of my ideas on this subject. Mr. Tupp gives a powerful answer to the celebrated attack on the competitive system contained in the *Edinburgh Review* of April, 1874. He gives statistical tables and details concerning the careers of the men selected by competition, and

* *The Selection and Training of Candidates for the Indian Civil Service* (C. 1446) 1876. **Price 3s. 5d.**

† *The Indian Civil Service and the Competitive System, a discussion on the Examinations and the Training in England.* **London: R. W. Brydges, 137, Gower Street. 1876.**

a general account of the examinations and of the organisation in which the civil servant takes his place. The evidence against selection by competition seems to come to this, that, after a most complete inquiry, the worst that can be made out against the 'Competition Wallahs' is that some of them do not ride well, and that there is a doubt in some cases about the polish of their manners, or the sweetness of their culture.

Doubt, indeed, was thrown by some writers upon the physical suitability of selected candidates; but on this point a most remarkable fact was brought to light. All the candidates for the Indian Civil Service have to undergo two strict medical examinations before Sir William Gull, so that this eminent physician is able to speak with rare authority as to the physical health of the candidates. This is what he says (*Report*, p. 36):—"I still continue to be impressed with the fact that a sound physical constitution is a necessary element of success in these competitive examinations. The men who have been rejected have not failed from mere weakness of constitution, but (with only a solitary exception or two) from a mechanical defect in the valves of the heart in otherwise strong men, and for the most part traceable to over-muscular exercises. . . . There is a somewhat prevalent opinion, that the courses of study now required for the public service are calculated to weaken the physical strength of candidates. Experience does not only not confirm this, but abundantly proves that the course of life which conduces to sound intellectual training, is equally favourable to the physical health of the student."

Unless then we are prepared to reject the opinion of the physician who has had the best possible means of forming a sound conclusion, a competitive examination is actually a good mode of selecting men of good physical health, so closely are the mental and bodily powers correlated as a general rule.

It is impossible that I should in a single article treat of more than two or three of the principal arguments which may be urged in defence of the examination-system. Did space admit I might go on to point out the great improvement which has taken place in education since effective examinations were established. The condition of Oxford and Cambridge as regards study in the present day may not be satisfactory, but it is certainly far better than at the close of the last century. The middle class schools are yet far from what they ought to be, but the examination-system set on foot by the old universities is doing immense good, giving vigorous and definite purpose where before a schoolmaster had hardly any other object than to get easily through the 'half'. Primary schools would for the most part be as bad as the old dames' schools, did not the visits of

Her Majesty's Inspectors stir them up to something better. In one and all of the grades of English education, to the best of my belief, examination is the sheet-anchor to which we must look.

I will not conclude without adverting briefly to a few of the objections urged against the examination-system. Some of these are quite illusory; others are real though possibly exaggerated. No institution can be an unmixed good, and we must always strike a balance of advantage and disadvantage. One illusory objection, for instance, is urged by those who take the high moral ground and assert that knowledge should be pursued for its own sake, and not for the ulterior rewards connected with a high place in the examination-list. The remarks of these people bring before the mind's eye the pleasing picture of a youth burning the midnight oil, after a successful search for his favourite authors. We have all of us heard how some young man became a great author, or a great philosopher, because, in the impressible time of boyhood, he was allowed to ransack the shelves of his ancestral library. I do not like to be cynical, but I cannot help asserting that these youths, full of the sacred love of knowledge, do not practically exist. Some no doubt there are, but so small is the number with which the school or college teacher will meet in the course of his labours, that it is impossible to take them into account in the general system. Every teacher knows that the bulk of a junior class usually consists of intellects so blunt or so inactive that every kind of spur is useful to incite them to exertion.

Nor do I believe that the few who are by nature ardent students need suffer harm from a well-devised system of university examinations. It is very pleasant to think of a young man pursuing a free and open range of reading in his ancestral library, following his native bent, and so forth; but such study directed to no definite objects would generally be desultory and unproductive. He might obtain a good deal of elegant culture, but it is very doubtful whether he would acquire those powers of application and concentration of thought which are the basis of success in life. If a man really loves study and has genius in him, he will find opportunities in after life for indulging his peculiar tastes, and will not regret the three or four years when his reading was severely restricted to the lines of examination. Of course it is not desirable to force all minds through exactly the same grooves, and the immense predominance formerly given to mathematics at Cambridge could not be defended. But the schemes of examination at all the principal universities now offer many different branches in which distinction may be gained.

The main difficulty which I see in the examination-system is

that it makes the examiner the director of education in place of the teacher, whose liberty of instruction is certainly very much curtailed. The teacher must teach with a constant eye to the questions likely to be asked, if he is to give his pupils a fair chance of success, compared with others who are being specially 'crammed' for the purpose. It is true that the teacher may himself be the examiner, but this destroys the value of the examination as a test or means of public selection. Much discussion might be spent, were space available, upon the question whether the teacher or the examiner is the proper person to define the lines of study. No doubt a teacher will generally teach best, and with most satisfaction to himself, when he can teach what he likes, and, in the case of University professors or other teachers of great eminence, any restriction upon their freedom may be undesirable. But as a general rule examiners will be more able men than teachers, and the lines of examination are laid down either by the joint judgment of a board of eminent examiners, or by authorities who only decide after much consultation. The question therefore assumes this shape—Whether a single teacher, guided only by his own discretion, or whether a board of competent judges, is most to be trusted in selecting profitable courses of study?

Few have had better opportunity than I have enjoyed both as teacher and examiner in philosophical and economical subjects, of feeling the difficulties connected with a system of examination in these subjects. Some of these difficulties have been clearly expounded in the series of articles upon the state of philosophical study at the different Universities published in MIND. It is hardly needful to refer to the excellent discussion of the philosophical examination in the London University by the Editor in No. IV. I should not venture to defend University examination against all the objections which may be brought against them. My purpose is accomplished in attempting to show that examination is the most effective way of enforcing a severe and definite training upon the intellect, and of selecting those for high position who show themselves best able to bear this severe test. It is the popular cry against 'cram' that I have answered, and I will conclude by expressing my belief that any mode of education which enables a candidate to take a leading place in a severe and well-conducted open examination, must be a good system of education. Name it what you like, but it is impossible to deny that it calls forth intellectual, moral, and even physical powers, which are proved by unquestionable experience to fit men for the business of life.

This is what I hold to be Education. We cannot consider it the work of teachers to make philosophers and scholars and

geniuses of various sorts: these, like poets, are born not made. Nor, as I have shown, is it the business of the educator to impress indelibly upon the mind the useful knowledge which is to guide the pupil through life. This would be 'cram' indeed. It is the purpose of education so to exercise the faculties of mind that the infinitely various experience of after-life may be observed and reasoned upon to the best effect. What is popularly condemned as 'cram' is often the best devised and best conducted system of training towards this all-important end.

W. STANLEY JEVONS.

VI.—PHILOSOPHY IN THE SCOTTISH UNIVERSITIES. (II.)

The system of the Professoriate, as we have seen, followed that of Regenting in the early part of last century. Its distinctive feature is the specialising of the subjects of instruction, and essentially connected with this are the organisation and distribution of these among different chairs. The character of the Philosophical teaching, and the contributions to Philosophical literature, of the Scottish Universities during the last hundred and fifty years have depended on those two elements. Out of the division of subjects, two chairs arose in the Scottish Universities. The one was known as the chair of Logic, and was devoted to the topics of Intellectual Philosophy—embracing generally Logic, Psychology, and Metaphysics, and, in the cases of St. Andrews and Glasgow, Rhetoric as well. The other was called the chair of Moral Philosophy, and was regarded as embracing Ethics proper, Natural Jurisprudence, Natural Theology, and generally Political Economy. The one exception to this arrangement was Aberdeen. There was a chair of Moral Philosophy both in King's and in Marischal College, but there was no special chair of Logic until 1860, when it was instituted on the fusion of the two Colleges. Intellectual Philosophy was, however, to some extent taught by the Professors of Moral Philosophy. It will thus be seen that the sphere of each chair was sufficiently wide, even after the specialising. This comprehensiveness allowed the individual professor considerable latitude of choice as to which department he should most prelect upon; and, in the history of these chairs, this freedom has not been always helpful to the progress of abstract thought.

One of the earliest results of the change to the Professoriate was that Latin, as the language of instruction, was abandoned

for English. The teaching thus threw off the old conventionalisms and formal phraseology, and came into closer contact with everyday life and experience. It became freer and fresher in spirit, and drew inspiration from the general literature of the country, and re-acted on that in turn. In Glasgow, in 1730, Francis Hutcheson delivered his introductory lecture in Latin, and a very fine and fervid specimen of Latin composition it was. But he found the trammels of the old speech too hard for the modern spirit, and very soon, for the first time in the University, took to lecturing in English. Since Hutcheson's time, the spoken discourse of an hour each day has been the staple of instruction in Philosophy in the Scottish Universities. The power and influence of this mode of teaching must no doubt vary with the lecturer, and depend on his character, capacity, and vigour. That this can be very great, apart even from subsequent examination on the lecture, and what may be called tutorial exercise, is known to those who are familiar with the system. The influence, simply as lecturers, of Hutcheson, Adam Smith, and Reid in Glasgow; of Ferguson, Dugald Stewart, and Dr. Thomas Brown in Edinburgh, is well-known; and many in the present generation have felt the power of the well-knit, logical utterances of Sir W. Hamilton, and the freshness, ease, and grace of Ferrier. The interest and eagerness of the Scotch student, the large class, the sympathy of numbers, the readiness for hard thought, and the disinterestedness of feeling, are the elements on which the Professor is privileged to work. He has the opportunity, simply by the character of his prelections from the chair, of quickening and inspiring his students in philosophical studies, and giving them a connected, comprehensive, and systematic view of his department—such as can be accomplished equally well under no other arrangement. If he fails to do this, the fault is his own.

But the habit of mere lecturing is not now, and has not been, for a long time, the system of the Scottish Universities. We find it in full force in Germany and in France, and no doubt it has its advantages in leaving the Professor untrammeled by tutorial work, and free for the higher duties of his chair. In the German Universities, and the Hall of the Sorbonne, the greater part of the philosophical literature of Germany and France has appeared first in the form of spoken lectures. But the Scotch professor has not only to lecture daily—he has to teach as well. He does the work of the Professor proper and that of the Tutor besides. In all of the philosophical classes in Scotland, some hour or hours are set apart for oral examination, to say nothing of written examinations and essays.

As to modern philosophy in Scotland—its rise, method,

scope, and results, since the first quarter of last century until now, I am afraid the utmost compression, within my prescribed limits, will not enable me to do it anything like justice. This is true of it, as Cousin remarks, that it was born in the Universities, and fostered by them. And it would be difficult to find a parallel in any country in Europe for the degree of tutorial work and the fulness of independent research, done by the occupants of the two poorly endowed chairs of Logic and Moral Philosophy in the different Universities of Scotland during the last 150 years.

Remarkably enough, with the first man appointed to the professoriate in Glasgow, we have the commencement of independent investigation. This was Gerschom Carmichael, the first professor of Moral Philosophy, in 1727. He is regarded by some as the founder of what is known as the Scottish School. He was, at any rate, a fresh thinker and teacher—well read in the older philosophy, and yet alive to a new power and method of inquiry. Both by date and habit of thought, Carmichael may be taken as the connecting link between the Regenting and the Professoriate, between the old thought and the new. Born about 1672, he studied in Edinburgh, and became one of the Regents in St. Andrews. In 1694, he gained by public trial, as was usual at that period, the place of Regent in Glasgow. His main interest was in ethical studies, and when the professoriate was instituted in 1727, he was made professor of Moral Philosophy. In all the departments of Philosophy which he touched, there are signs of the new spirit. His *Breviuscula Introductio ad Logicam*, published before 1722, shows the influence of the logic of Port-Royal—especially in the distinction of Comprehension and Extension. He edited Puffendorf, with valuable notes—*De Officio Hominis et Civis Juxta Legem Naturalem*. The second edition is dated Edinburgh, 1724. The important advance which is made in this work is the subordination of Jurisprudence to Ethics, and the attempt to find a ground for human law by a method of observation and analysis of the facts and principles of human nature. His *Synopsis Historiæ Naturalis, sive Notitiæ de Existentia Attributis et Operationibus summi Numinis, ex ipsa Rerum Natura haustæ*, appeared in 1729—the year of his death. In this treatise, he objects to the demonstrations of Descartes and Dr. Samuel Clarke, refers to the proofs of design in the world, and shows generally that while he had still a hold of the expiring formalism of the time, he recognised the new or experimental method of founding inference on the observation of facts. The germs of fresh thought can hardly be said to have expanded greatly in Carmichael, but they were quickened into growth and fruitfulness in the mind of his pupil—Francis Hutcheson.

XUM

Francis Hutcheson (1694-1746) entered Glasgow College as a student in 1710, where he studied under Carmichael. He was the son of a Presbyterian minister in the north of Ireland. The family was originally, however, from Ayrshire. The son studied for but finally abandoned the ministry, his philosophical cast of thought and moral views finding little sympathy among the people of the Irish Presbyterian community. His theological leanings were to the "New Light" party. The authorities of the Anglican Church in Dublin tried to prevent his carrying on an academy there, because he had not subscribed the articles; and but for the friendly intervention of Archbishop King, a speculative thinker like himself, they would have succeeded. The exulting spirit of freedom and the feeling that he had at length got into his true sphere of work, pervade his inaugural address at Glasgow in 1730. During the 16 years in which he occupied the chair of Moral Philosophy there, he was a most powerful and attractive lecturer. He drew to the University numerous dissenting students from England and Ireland, against whom the native Universities were closed. His lectures embraced Ethics, Natural Jurisprudence, Politics, Economics, and Natural Theology, and breathed a strong spirit of that civil and religious liberty from the limitation of which both professor and students had suffered. Jealousy followed his distinction; and suspicion, prejudice, and bigotry, his freedom of speech. But Hutcheson was a man, and minded none of them. He has left the mark of his personal character and opinions on all the philosophical literature of last century. Hutcheson's moral teaching, and indeed the whole University teaching in Scotland that succeeded him, was inspired by a revulsion from the servile politics of Hobbes, and his ethics of self-interest. The gradually increasing results of the impulse are seen in the lectures and writings of Smith, Reid, Ferguson, and Stewart. Smith, Ferguson, and Stewart especially, connect themselves directly with the advanced views of civil and religious liberty which animated the young statesmen of the Whig party who laboured for those ends up to 1832. Stewart, in particular, by his lectures on Political Economy in the early years of the century, diffused and popularised the views of Smith, and recommended them to such pupils as Palmerston, Lansdowne, Lauderdale, and Russell.

The influence of Carmichael is manifest on the whole cast of Hutcheson's thought; and Hutcheson, more than any other, was the forerunner of the Scottish School. The progress from Locke to the later forms of doctrine can easily be traced in his writings. He accepted Locke's theory of the origin of knowledge; and he never to the end attacked it in principle. In him the psychological method, the reflective analysis of con-

sciousness, became more marked, and more minutely applied. He still keeps by the notion of Sense as the inlet of ideas and feelings. He recognises the External Senses and the Internal Sense, or Sensation and Reflection of Locke. With regard to the former, however, he shows that there are ideas accompanying sensations proper, *viz.*, duration, extension, and number, which are not, strictly speaking, sensations, for they belong either to a plurality of senses or equally to the external and the internal senses. This was an anticipation of Reid's subsequent analysis of Perception, and of Kant's forms of space and time. Hutcheson also finally gave up the hypothesis of representative ideas, and leant to the Berkeleyan doctrine of sensations, as signs of causal power. And he finds also that there are other senses besides these—called Reflex—which are the sources of specific feelings. Among these is the sense of Beauty and that of Goodness. Sensation and Reflection, therefore, are not the only sources of human knowledge. Hutcheson's moral theory was very much influenced by that of Shaftesbury. It is not sufficiently analytic in ground, nor extensive in grasp. Sense is an objectionable word for a new source of ideas; it tends to make feeling the ground of judgment, and gloss over the real difficulties in an ethical theory. Its vagueness and evil effects are seen in the *Theory of Moral Sentiments* of Hutcheson's pupil, Adam Smith. Then it is impossible to resolve as Hutcheson does all virtue in o a beneficent motive as the principle and public good as the quality. But the fervour of the man and, on the whole, the noble, elevating, and refining character of his ethical views, were of great value and influence in an age that was painfully working out from the not very inspiring consequences of the systems of Locke and Hobbes. In Hutcheson's compend of Logic and synopsis of Metaphysic, moreover, there are more questions and points in common with the logical and metaphysical discussions of Sir W. Hamilton than any other treatise in Scottish philosophy from the time of the former to that of the latter.

Hutcheson's first work, the *Inquiry into the original of our Ideas of Beauty and Virtue*, inaugurated another line of speculative thought in Scotland. It was one of the very earliest modern treatises on the subject of Aesthetics. Appearing in 1725, it preceded the treatise of the Père André in France (1741), and that of Baumgarten in Germany (1750). It was the forerunner in Scotland of some very important and valuable discussions of the subject. One of the pupils of Hutcheson caught the impulse and the spirit of his aesthetical inquiries. Adam Smith, a Glasgow student and a Snell Exhibitioner at Oxford, returned from the English university in 1748, at the

age of 25, and began his public career by giving lectures on Rhetoric and Belles Lettres in Edinburgh. These formed part of the material which he afterwards used in his brief occupancy of the Logic Chair in Glasgow,—1750-51. They were posthumously published under the title of *Philosophical Essays.* The taste for aesthetical inquiries thus awakened led to the foundation of the Chair of Rhetoric in Edinburgh, 1762. It was first occupied by Dr. Hugh Blair, whose lectures, afterwards published, are well known to the world. This form of investigation has received great attention in the Scottish universities, since Hutcheson gave it an impulse. It was prosecuted in Aberdeen in last century by Alexander Gerard, Beattie, and Principal Campbell. The subject has occupied a place more or less prominent in the teaching and writings of Reid, Stewart, Brown, and Hamilton.

There is, however, another name besides those of Carmichael and Hutcheson, which has been too greatly neglected in the early history of Scottish speculation,—viz., that of George Turnbull, Professor of Philosophy in Marischal College and University, Aberdeen. Turnbull had a very direct influence on Scottish thought, for he was the master of Reid, and there can be no doubt that Reid got from him much that is distinctive in his method and system. Turnbull has been cursorily referred to by Stewart and Hamilton, but it was Cousin who, in his most painstaking and interesting history of the Scottish Philosophy, first did justice to Turnbull and his influence on Reid. Turnbull was born in 1698, and graduated at Edinburgh in 1721. In the same year he was appointed a Regent in Marischal College; and in 1726, the last on the list of the candidates whom he presented for laureation was Thomas Reid. Turnbull resigned his regency in Marischal College in 1727, and thereafter seems to have travelled on the Continent of Europe as tutor to young Wauchope of Niddry. He was among the first to apply to the contents of consciousness the method of observation and induction, which had been employed with such brilliant results in the natural sciences. Abjuring abstract metaphysics in word and method, he substituted moral philosophy as the name of the new line of inquiry. At the same time, he regarded reasoning and deduction as perfectly legitimate in moral philosophy, provided the principles were first of all formed by a study of consciousness. Immediate principles of common sense were recognised by him; and a fact guaranteed by these, such as freedom of volition, was held as superior to abstract reasoning. To hypothesis and deduction from it, he was especially averse. He has analysed the fact of association with remarkable ability; and shown even by this example alone the utter misconception

of those who suppose that the reflective method of the Scottish thinkers means merely the acceptance of facts of experience in their totality and complexity, and does not involve thorough-going analysis. The two principal works of Turnbull are:—*The Principles of Moral Philosophy; an Inquiry into the wise and good government of the Moral World*, London, 1740. The other is the fruit mainly of his foreign travels:—*A Curious Collection of Ancient Paintings*, London, 1744. Turnbull owes much to Hutcheson, which he frankly acknowledges; he refers also to Shaftesbury and Pope; he is familiar with the new physical views of Newton; he is full of the modern spirit of inquiry; and there is withal a remarkable vein of originality and freshness in his speculative investigations. But for the fact that he left Scotland at an early age, and seems never to have returned, his writings would have been long ago recognised as an important and influential element in Scottish thought.

The ancient practice of Disputation had fallen into desuetude in the Scottish Universities generally towards the middle of last century. In itself it was useful, as a means of self-action; but its tendency in the long run is no doubt to conventionalism in phrase and argument, and thus to a deadening rather than a quickening of intellectual effort. It was probably, however, a feeling of the real want, which the practice had no doubt supplied, that led, in connection with certain of the Scottish Universities, in the first quarter and middle of last century, to the rise of Voluntary Debating Societies. These were formed in some cases by students attending the University, and in others, by young men who had passed through their course. The earliest association of this kind arose in the ancient University of St. Andrews. There, about the end of the 16th century, a society of students was formed, for literary and philosophical purposes. They had no fixed place of meeting; but along the east sands of the pleasant bay, or among the fields rising to the south, which overlook the spires and towers of the grey city by the sea, they wandered free as the thoughts which moved them, discussing classical and speculative points. One of these lads afterwards made a name in history as Thomas Young, the tutor of Milton. This says something for classical Latinity in Scotland in the 17th century.

Since then, housed and encouraged by the Universities, these private societies have supplied the place of the old academical disputations—they have developed latent talent, they have trained their members to readiness and fluency of speech, and to self-command and self-development; they have taught young lads to find their level, and to know their practical powers. Many distinguished men, as Principal Robertson, Dugald

Stewart, Lord Brougham, Thomas Brown, Sir James Mackintosh, Lord Jeffrey, Francis Horner, Lord Cockburn, and others, have emphatically acknowledged their obligations to this early discipline. They were in fact, as has been well said, "able to perform their part in the drama of life with greater ease and success, in consequence of this early rehearsal".

The writings of Berkeley, on their publication, made less impression in England than might have been looked for; but in Scotland, they at once attracted attention. In Edinburgh, a society of young men, chiefly connected with the University, was formed, for the express purpose of studying them, and of soliciting explanations from the author of obscure points in them. Among other members, were the Rev. Dr. Robert Wallace, author of a *Discourse on the Numbers of Mankind*, and John Stevenson, afterwards Professor of Logic in the University. It was called the Rankenian Club, and out of it the Royal Society of Edinburgh is said to have taken its rise. The date of the Club seems to have been from about 1718 to 1724.*

The Rankenian Club was succeeded by several other societies, partly philosophical and partly literary. There was the society of which Principal Robertson, Wilkie, the author of the *Epigoniad*, and John Home, the author of *Douglas*, were members. There was the Select Society, of which Allan Ramsay, the poet, was founder, in 1754. The Speculative Society arose in 1764. Dugald Stewart was an active member of it from 1772-75. When a lad, in Glasgow, attending the lectures of Reid, he was a member of a College Society there. Before it he read an essay on Dreaming, the first philosophical essay he ever wrote. A revised draft of it seems afterwards to have been read before the Speculative Society, and out of it, he tells us, his whole subsequent speculations on the mind took their rise. Whenever there was any quickened life in the University, there seems to have been an impulse to associations of this kind. Two years after Sir W. Hamilton was appointed to the chair of Logic in Edinburgh, a society of young and ardent students arose, numbering as members several names afterwards known in philosophical literature.†

But the Philosophical Society of Aberdeen was the most remarkable and the most influential on the speculative thought and literature of the country. It was founded in the beginning of 1758, it continued in vigour for several years, and finally

* Stewart's *Life of Robertson*, and Fraser's *Berkeley*, Vol. IV., p. 224.

† Among others, A. C. Fraser, now Professor of Logic in Edinburgh, John Cairns, now the Rev. Dr. Cairns, Professor of Theology in the United Presbyterian Hall, John Clarke, a student of great promise, who died young.

ceased in 1773. The original members were Thomas Reid, Regent in King's College, George Campbell, of Marischal College, John Stewart, Professor of Mathematics in Marischal College, Dr. David Skene, Physician in Aberdeen, Robert Trail, and Dr. John Gregory, 'Mediciner,' or Professor of Medicine in King's College, afterwards of Edinburgh. Reid appears to have been the founder, and was the first secretary. The rules are in his handwriting. To the original members were added—Professors Alexander Gerard (of Moral Philosophy, Marischal College, 1752-1760), Beattie, Thomas Gordon, George Skene (Moral Philosophy, Marischal College, 1760-1787), William Ogilvie, James Dunbar, William Trail, John Farquhar, Minister of Nigg, and John Ross, of Banff Castle. The constitution, which was probably drafted by Reid, is very curious. Philosophy alone is to be the subject of discussion and essay—to the exclusion of Grammatical, Historical, and Philological questions. Philosophy is explained as comprehending "every principle of Science which may be deduced by just and lawful induction from the phenomena either of the human mind or of the material world; all observations and experiments that may furnish materials for such induction. The examination of false schemes of Philosophy and false methods of philosophising; the subserviency of philosophy to arts; the principles they borrow from it, and the means of carrying them to their perfection." This was the explicit statement of the new method of philosophy in the country, and might be taken as the motto to the whole subsequent works of Reid. The business consisted of debates and discourses on subjects prescribed. The first discourse was by Mr. Robert Trail, entitled "An abstract of a discourse by Mr. Rousseau on the Source of the Inequality among Mankind, with some observations upon it". The next was by Principal Campbell, "On the Nature of Eloquence, its various species and their respective ends". This and three other discourses became chapters of the Philosophy of Rhetoric, published in 1776—the work which first widened the view of the science so as to meet modern requirements. Reid gave in the first year (1758) a discourse "On the Philosophy of the Mind in general, and particularly on the Perceptions we have by Sight". Subsequently Reid gave a discourse "On the Sense of Touch," and one "On Euclid's Definitions and Axioms". He is also referred to as giving a discourse which was not entered, as was the practice, in the Records of the Society, as he is to send it to the press, along with other discourses which he had read before the Society. In 1763, he gave a discourse "On Perception".* The *Inquiry into the*

* I am indebted to Professor Bain for notes taken from the Minute

Human Mind—the first, the freshest, and most original of his works—which doubtless embodied those discourses or their results, appeared in the end of 1763. Gerard, among other subjects, gave "The Nature and Varieties of Genius" (1758), and "The proper subjects of Demonstrative Reasoning". Beattie takes up "The Characters of Poetical Imagination," and "The Difference between Common Sense and Reason". Their subsequent writings bear traces of these special studies and discussions. Out of these society-papers came the two works of Gerard—the *Essay on Taste* (1759), and that *On Genius* (1767). These show a very meritorious study of the *Poetics* and *Rhetoric* of Aristotle, and an appreciation of Aristotelian principles, which no other writers, save Harris and Monboddo, evinced in the last century. Beattie's *Essay on Truth*, not certainly remarkable for its speculative insight, appeared in 1770. His essays *On Poetry and Music* were published in the same year with Campbell's *Rhetoric;* and his *Dissertations Moral and Critical* appeared in 1783. No student of æsthetics, or of the progress of culture in Scotland, should pass by without careful attention the critical essays of Gerard and Beattie.

While fresh speculative thought was thus active in Glasgow and Aberdeen, the Universities of Edinburgh and St. Andrews showed little or nothing of this new influence. Colin Drummond, who had been one of the Regents, was the first professor in Edinburgh (1708-30), and continued very much in the old line. John Stevenson succeeded him, and occupied the chair until 1775. Stevenson was probably the first to introduce the then novel principles of Locke into university teaching in Scotland. But his course embraced a great deal more than was represented by Locke. He made use of text-books as the basis of his teaching, and, besides Bishop Wynne's *Abridgment of Locke's Essay*, these were, in Logic and the History of Philosophy, the *Elementa Philosophiæ Rationalis et Moralis* of Heineccius (1680-1741), for some time Professor of Philosophy at Halle; in Metaphysics, De Vries's *Determinationes Ontologicæ;* in Rhetoric, Aristotle's *Poetics* and Longinus *On the Sublime*. Stevenson continued the mediæval practice of oral disputation in the class. He represents the transition period between the old and the new teaching. His influence was most marked in the department of æsthetics and the cultivation of literary taste. Principal Robertson, one of his students, acknowledged that he was more deeply indebted to Stevenson's instructions, especially his illustrations of Aristotle

Book of this Society; and since I received the notes, the Minute Book itself has been most obligingly sent to me for examination by its possessor, Dr. John Webster of Edgehill.

and Longinus, than to any other influence in the course of his academical studies.* Stevenson published nothing in Philosophy. The only work that emanated from a Scottish Professor in last century which showed distinctly and almost exclusively the influence of Locke, was the *Elements of Logic*, by William Duncan, Professor of Natural Philosophy in Marischal College, Aberdeen, from 1753 to 1760. John Bruce (1775-86), the successor of Stevenson, adhered closely to the inductive method and spirit; in fact, more exclusively so than his predecessor. He published *First Principles of Philosophy, for the Use of Students*, 1777; *Elements of the Science of Ethics, on the Principles of Natural Philosophy*, 1786. James Finlayson (1786-1808), was an able man, but he published nothing in Philosophy. Dr. David Ritchie's occupancy of the chair (1808-36) was the dead time prior to Hamilton. In the Logic chair in St. Andrews, Robert Watson (1756-78) and William Barron (1778-1804) lectured chiefly on Rhetoric. It was not until the time of William Spalding (1845-60) that Psychology and Logic assumed their proper places in the course, under an able and most painstaking professor. In the Moral Philosophy chair, Edinburgh shows nothing of importance until the time of Adam Ferguson (1764-1785). His occupancy of the chair corresponds to a great extent with the period of Reid in Glasgow, and he must be regarded as an independent power in philosophical literature and in promoting high academical teaching, especially in Ethics and Politics. On the question of the origin of knowledge, he did not in theory advance beyond Locke. In Morals, however, he went beyond not only Hobbes but Shaftesbury and Hutcheson in recognising, besides self-interest and benevolence, the principle of Development and Perfectibility. He published in 1766 *An Analysis of Pneumatics* (Psychology) *and Moral Philosophy.* His *Institutes of Moral Philosophy* (1769) and *Principles of Moral and Political Science* (1792) contain passages of high and well-sustained eloquence. Ferguson and Adam Smith are probably the best types, in Scotland in the last century, of culture and style formed on a classical model. Ferguson's *Essay on Civil Society* (1767) examines the questions of the origin, end, and form of government, and vigorously assails the opinions of Hobbes.

Turnbull's teaching was over before there appeared (1739-1740) the famous *Treatise of Human Nature*, round which has centred all the deepest and most exciting thought of modern times. But we have evidence, in the topics of the Aberdeen Philosophical Society and in his letters, that Reid was alive to the issues raised by Hume, and was studying

* Stewart's *Life of Robertson. Works*, Vol. X., p. 105.

these in the quiet seclusion of his country parish before he was called to be Regent in King's College in 1751. Reid was the first Scotchman who truly appreciated the breadth and the bearing of the principles of the *Treatise of Human Nature.* The scattered lines of speculative effort in the minds of thinking men were gathered into one by him during the course of his lectures in the Moral Philosophy chair in Glasgow (1764-86), and the results of his reflection were finally embodied in his *Essay on the Intellectual Powers* (1785) and *Essay on the Active Powers* (1788).

Scottish Philosophy, so far as it was a purely native growth or attempt to answer philosophical questions from its own resources, turned, from Reid's time, on three points *viz.*, Sensationalism (with Representationalism), Idealism, and Negationalism or Scepticism. The first was for it represented by Locke; the second by Berkeley; the third by Hume. There might be a question as to how far each of these names was properly identified with the associated doctrine. But historically for the Scottish speculators, Locke represented the first point, Berkeley the second, and Hume the third. And it seems to me that it was substantially correct so to connect those names, although Locke undoubtedly put reflection alongside of sensation, and Berkeley may be interpreted as holding something not unlike Natural Realism in its phenomenal form, and although it may be a question as to whether Hume's basis was absolute or hypothetical, and his doctrine therefore Negationalism, or simply Scepticism. The Representationalism of Locke readily developed into the Idealism of Berkeley. He had only to cut off the thing represented, by showing that it was impossible to know it on the theory. The Sensationalism of Locke and the Idealism of Berkeley developed in the hands of Hume into a Negationalism or Scepticism which left the simple impression of Sensation the sole reality in the universe. The impression neither had cause in an outward, nor subject in an inward world. The Universe meant merely a series of impressions, utterly isolated but for casual conjunction found to be constant. The external world, the Ego, Cause, Wisdom, Deity, all disappeared as illusions of the fancy; they were subjectively unreal, therefore objectively empty, and inapplicable as notions to experience.

One form of answer distinctively made to Hume in Scotland consisted in a protest against the extreme consequences of his system. It lay almost entirely in an appeal to the general or universal in the ordinary experience and belief of mankind—as to material reality, personality and identity, cause, freedom, and Deity. These were alleged to be objects of common belief or common sense, to be practically recognised by all, by

peasant and sceptic alike, and to be irresistibly accepted as realities. This answer may be taken as represented by Beattie and Oswald; only very partially, if at all, by Reid and Stewart. If it be offered as a complete or final answer to Hume, it is inadequate. For he recognises these beliefs as facts in our experience, and he proposes to show that they have no ground in knowledge, and also how, as illusions of the consciousness, they grow up in that experience. We must do more, therefore, than simply protest that they exist, or that they are in our experience. But the statement of these beliefs is quite competent to this extent, that they are the materials of the speculative question, that which it is called upon thoroughly to analyse and definitely to explain—or, if they be represented as illusions, clearly to show that they are so, and how they are so. No speculative theory can be accepted as adequate which simply over-rides the universal or even the general convictions of human experience. And as Hume includes under impression, not only sense-impressions, but passions, emotions, desires, volitions, "on their first appearance," it might very fairly be urged that he has no right, apart from a more definite analysis and proof, to regard all these so called impressions as of the same nature with sense-impressions. It would be perfectly competent for a critic to say—'I find more in emotion and in volition than you profess to find in the simple impression of sensation, and I deny your right to class or slur those together merely because they are not the reflex of some idea or copy of a sense-impression'. This would open an almost illimitable field of intellectual, moral, and religious experience; it would be as wide as any individual sentiency could reach to; and it would probably show that this basis of impression is, as put by Hume, altogether vague and useless. When this first somewhat rough position of what is often ignorantly named the Common Sense School became more philosophical, it was found that the analysis of the facts called impressions by Hume, according to his own method of reflection, really became an important battle-ground.

Another possible answer to the doctrine might have been to show that, admitting the ultimate in knowledge laid down by Hume, the consequences do not logically follow from it, that we yet may and do know the objects which Hume professes to show we cannot know, on the basis of his assumption. This answer Reid did not attempt and he showed his sagacity in not doing so. But even on this point Reid has in a way suggested, and legitimately, that the requirements of Hume are self-inconsistent or contradictory; and the principle of Non-Contradiction Hume himself must and does admit. For he assumes not only

a single impression of sensation, but a series or succession of impressions, that is, of consciousnesses. If human knowledge be the conscious impression of each moment of time, how can the second or different conscious impression know anything of the first impression, or know anything but itself, if it be a self? If knowledge be restricted to each successive moment, how can there be a knowledge of a series or succession at all? If not, how can there be a knowledge or experience of uniformity in nature—the great point which, according to Hume, requires to be accounted for? Why should we fall back on custom or habit to account, forsooth, for that which, on the conditions of knowledge laid down by Hume, cannot be known, and cannot, therefore, be?

But Reid's main reply to Hume is, that his analysis of experience is imperfect, one-sided, exclusive. Reid has said that sensation or impression is not alone in experience or consciousness, as Hume alleges. He has challenged the fulness and the accuracy of Hume's analysis of experience, "perceptions," or consciousness; and he is as much entitled to say that there are other elements in consciousness, as Hume is entitled to say or assume that there is but one element in consciousness. Reid, in making his statement and exhibiting his analysis, is as philosophical in method as Hume is. The result is a matter of testing by reflection—the ultimate court of appeal. But Reid's allegation is that Hume's basis is inconsistent with the facts to be found in the same quarter and by the same method as Hume himself resorts to and uses. And he has a perfect right, philosophically, to this method of answer. Thus, for example, Reid would say 'Sensation is a mere abstraction. It is not found alone; it cannot form a real basis. It is inseparably associated with a self or person—a sentient subject. It is wrong, therefore, first of all, to disassociate these, and impossible thereafter to conjoin them.'

Hume sought to destroy the reality of certain objects—personality and Deity—through the destruction of the possible conceptions of them. Reid is usually represented as "protesting" that we believe in these things—that all mankind does so—and, therefore, that this belief is a guarantee of their truth. Reid's protest was, when fairly interpreted, no such thing. He protested merely to this extent—that common or universal belief is not explained or satisfied by the results of Hume's hypothesis or basis. He quite admitted the contradiction between sense and reason, which Hume had created; but he did not merely allege the sense-side against the reason and rest there. This led him to analyse the experience which Hume says had been analysed, and to show that its essential elements had been overlooked.

Reid's argument, therefore, is that on such a point as personality or identity, Hume has not destroyed its objective reality by proving its subjective emptiness, for the notion is given along with is, the basis of even the impression which Hume says is the whole in experience. This may be taken as the first stage of Reid's reply to Hume. It is the one represented by Reid's first treatise the *Inquiry*. It amounts to saying and showing that there are certain principles or laws of intelligence which logically condition the so-called only sources of knowledge—sensation and reflection—recognised by Locke and Hume; and this is a perfectly competent and legitimate mode of answer. It only requires to be made out.

The second and advanced stage of the answer is that represented in the *Essays on the Intellectual Powers* (1785), in which he explicitly lays down the test of necessity,—as the criterion of what is original and what is empirical. Here no doubt his analysis of the principles thus supposed to be found is far from being above criticism. His two lists of the principles of contingent and necessary truths are not well marked off from each other. But the lists afford the impartial basis at least of a more thorough-going analysis and systematic arrangement. Such is Reid's position, and we see how little ground there is for the assertion that, while Kant "demonstrates" his philosophy, Reid merely protests against conclusions. The truth is Reid does nothing less or more in this respect than Kant does or can do. Reid points to universality in knowledge; and he ultimately grounds it in necessity of thought. And what is Kant's position in the matter? In the first part of the *Kritik* he supposes elements in knowledge, not given by experience. But he has and can have no "demonstration" of this assumption. How does he establish *a priori* elements? In this way:—the senses, taken by themselves, give us only the particular and contingent. If there be universal and necessary elements in knowledge, then these are furnished not by Sense but by Reason. That such elements exist is proved by reference to certain sciences, and also by reference to our consciousness. And it can be shown that without connection and relation, the data of sense would not constitute knowledge as we find it. The connection or relation, therefore, is the condition of the possibility of experience or knowledge. Now obviously universality must be grounded on necessity; and how is necessity to be tested except by reflective analysis, an appeal to what we can or cannot reverse in thought? But where in such a case is the demonstration of the system, and wherein does it differ from Reid's position? How can I distinguish the contingent in Sense from its opposite, the necessary in Reason—unless I

assume the distinction of contingent and necessary as already in knowledge? In no way whatever; and it is not a demonstration to an associationist. It is to him a piece of mere dogmatism. Kant not less than Reid must simply fall back on an ultimate reflective necessity,—both analytic and synthetic,—both logical and metaphysical. Both these necessities are essential to any *a priori* synthetic act; for the subject must in the first place be kept identical with itself by a logical necessity, and the predicate must be added to it, in the second place, by a metaphysical necessity. This test is always supposed, and supposed in fixing the conditions or possibility of any judgment *a priori*, whether analytic or synthetic. The truth is that demonstration in metaphysics, in any proper sense of the term, is a vain dream.

Part of the repugnance to the writings of Reid is due to a certain aversion to the moral spirit which characterises them. Reid is strongly dogmatic. He has no sympathy with any but a disinterested ethical theory, whether of desire or duty, or with theories of fatalism or materialism in any form. And he is content virtually to say, 'I am prepared to show that the objections before me to the common dicta of mankind and of consciousness on those points are unfounded; at the same time I cannot give, and do not think there can be given, a reasoned-out theory of them'. Now this is a state of mind in which the moral interest is stronger than the intellectual. It is content to accept what it cannot demonstrate. This is a mood which is excessively repugnant to the upholders of a complete demonstration of human knowledge and beliefs—of a reasoned philosophy—and it is particularly repugnant to the hangers-on to the skirts of such systems, who in the zeal of an intellectual flippancy set little store on moral interests. It might be suggested to such people that a 'reasoned-out' system of philosophy, whether speculative or moral, is not reasoned out until it is proved; that the pretence of demonstration and a restless intellectual turning round and round do not necessarily betoken strength, and are but poor substitutes for cautious observation and circumspect analysis.

Dugald Stewart succeeded Ferguson (1785-1810). Through him the influence of Reid, whose pupil he had been in Glasgow, was extended to Edinburgh. Stewart's position, as to some extent developing and illustrating the main doctrines of Reid, is well known. His power and eloquence as a lecturer, his fine psychological analysis, his refined, though somewhat formal and repressed, style of writing are characteristically his own.*

* See his *Collected Works* in Ten Volumes—edited by Sir W. Hamilton—with Memoir and Supplementary Volume, &c., by the present writer, 1858.

Thomas Brown (1810-1820) succeeded Dugald Stewart. Brown occupies an intermediate position in relation to the philosophy of his time. Accepting to some extent the doctrine of intuitive principles, the main line of his thought is yet of the associational type. Condillac and De Tracy, whose opinions had been formulated by Dr. Young of Belfast, were the foreign influences which determined on many points almost literally the views of Dr. Thomas Brown. He first made a reputation by the *Inquiry into the Relation of Cause and Effect* (1804), in which he adopted the view, meagre and insufficient as it is, of uniformity of sequence as identical with causality, and endeavoured to show that the consequences charged on this doctrine as held by Hume, were not well founded. His *Physiology of the Mind*,—an imperfect book,—appeared in 1820, and his *Lectures on the Philosophy of the Mind*, after his death, in 1822. Brown's views have formed very much of an episode in the course of speculative thought in Scotland; and, with all his subtlety and diffusive eloquence, it would be difficult to vindicate for him any place except that of an illogical disciple of Hume.

There were but two men in the Scottish Universities over whom Brown had any influence. The one of these was Dr. Thomas Chalmers, Professor of Moral Philosophy in St. Andrews (1823-28). Chalmers was naturally a powerful lecturer. As a speculator he shows the unreconciled influences of Brown and Butler. Patrick C. Macdougall, Professor of Moral Philosophy in Edinburgh (1853-68), was influenced mainly by Brown and Chalmers. His fervour, eloquence, and subtilising power as a lecturer—often too minute to the student not capable of prolonged attention—will not soon pass from the memory of his auditors. Nor can an old pupil omit a passing reference to the power with which John Wilson, Professor of Moral Philosophy in Edinburgh (1820-1853), though not connected with any school, could stir the feelings of his students. Some of his analyses were very remarkable—particularly that of Imagination; and speaking from the memory of twenty-seven years, I regret that these lectures have not been given to the world.

Until the time of Sir W. Hamilton, philosophical thought in Scotland may be said to have been purely a product of the soil. Brown no doubt borrowed largely from De Tracy, but his writings cannot be said to have had a paramount influence in the country. It was Hamilton who first changed and widened the conception of the problems of philosophy, while still keeping scrupulously to the method in use. The two foreign influences which moulded Hamilton's thinking mostly were Aristotle's *Organon*, and Kant's *Kritik of the Pure Reason*.

XUM

From the articles of Hamilton, in the *Edinburgh Review*, on Cousin's Philosophy (1829), the Philosophy of Perception (1830), Logic (1833), Speculation in Scotland was led to look at the old problems from entirely new points of view, and to speak in a nomenclature formerly unheard, and so technical as to be utterly unfamiliar to the readers of the older writers. The thought and language were more precise, finished, and greatly more abstract than any known before in Scotland. The essay on Cousin put a question regarding the reach and limits of knowledge, which had not been put speculatively before; that on Perception raised much wider issues regarding the authority of the grounds of knowledge than had been previously discerned as involved in it; and the discussion on Logic placed the science on a basis which had not been possible through any previous line of analysis in Scotland. The whole philosophy of Hamilton was comprised in general in those contributions to the *Review*. His labours on Reid, his *Discussions* and *Lectures*, cannot be said essentially to go beyond the lines of thought there laid down. Indeed, except on the object in perception, there is no real change in his subsequent writings; and his latter view on this point could, were there space at present, be shown to be in no way incompatible with his earlier position.

As to method, Hamilton made it perfectly clear that that of Speculation is reflective observation and analysis. While retaining and vindicating the phrase Common Sense as a name for the universal in Consciousness, he shows that this is not proposed as Philosophy, nor as the method of Philosophy; it is the material upon which a purifying analysis works. There is "no appeal to the undoubted beliefs of the irreflective many," but "a critical analysis of these beliefs". And this common consciousness, sifted through all its forms, is that with which in the end philosophy must be found in harmony, or show reason for its divergence. The method of the school, therefore, seeks in a word only the original data of consciousness—all of them—and these in their integrity and relative place. It thus affords scope for any reach of analysis and evolution, however far back it may go; but, what is no less important, keeps in view the actual and matured state of consciousness in its complex filling or content.

If Reid vacillated between universality and necessity as tests of ultimate truth, Hamilton made it perfectly clear that in his view the latter was primary and essential. The ultimate truths of Reason are with him guaranteed by the logical unthinkableness of their opposites; the ultimate truths of fact, still called necessary, are regarded as subject to possible doubt as to their truth, but not as to their existence. And this doubt is even

supposed in the end to be corrected by the law of Non-contradiction. * It is here that Hamilton connects himself with foreign speculation. Descartes in reaching the absolutely indubitable had found it in self-consciousness, which guaranteed itself simply in preserving its consistency. But Descartes did not explicitly state the principle of the guarantee. This is the law of Non-Contradiction, that preserves for us a given datum or content—a datum realised in conscious thought, and shows it to be by our thought indestructible. But beyond or above consciousness Hamilton holds it impossible to go. The question—How is consciousness possible? he holds to be incapable of solution, as demanding the impossible condition of another and higher consciousness than ours. The furthest back point in reflection is for us consciousness, as revealed in a co-existing self and not-self; and if it be asked how a self can be conscious of a not-self, or how an unextended subject can be conscious of an extended object, his answer is, that, as an ultimate fact ascertained by critical analysis, it is both unnecessary and impossible to show how it is so, and further, that it is as impossible to show how we are conscious that we think at all, or know anything whatever, as it is to show how we perceive the not-self. In fact, with Hamilton, Philosophy ultimately means the co-ordination, and to a certain extent subordination, of the primary contents of consciousness in a harmony which excludes the self-contradictory.

The question as to *how* we perceive the material or extended is still raised as an objection to the doctrine of Natural Realism. It does not seem to be considered that the point is first of all a question of fact, and that the fact is to be decided according to certain tests or criteria. I admit that it would be a fair line of argument to attempt to show that what is called extension or spatial co-existence is simply a form of succession in time, say of muscular sensations, and hence that externality, as understood by the Realist, is merely, after all, an illusion. This has been essayed by De Tracy, Brown, the two Mills, and Professor Bain; as, I think, without effect—though I cannot now criticise the arguments. But the question of explication in the sense demanded is a wholly secondary point, and may not be of the slightest consequence in the discussion. And what are we to say of such an objection on the part of a philosophy which first of all denies that there is any pure or mere mental act, that the physiological and the psychological are inextricably fused, and at the same time holds it to be impossible and contradictory to know an independent material reality, because the notion of a material thing is a mental state,

* See Reid's *Works*, p. 754, § IV., 3.

and because such an object can be known only in relation to mind? So far as Hamilton is concerned, he never speaks of any material reality that is not in relation to mind; and as for the knowledge of a material object being a mental state, he would never have dreamed either of disputing it, or of admitting that it entailed any consequence of the kind alleged. But how, if there be no purely mental state at all—can the difficulty of fusing matter and mind occur? The proper objection on such a system would be not that mind cannot know matter, but that there is no mind—only a synthesis or fusion of mind and matter—to know, that in fact matter is known as mind, and mind known as matter, as reciprocally convertible experiences.

The other main feature in the philosophy of Hamilton is its doctrine of the Infinite and Absolute. His negative theory on this subject comes directly out of his fundamental position that neither thought nor consciousness can transcend the relation between the knower and the known, *i.e.*, his theory of subjective relativity, and that in the object known there is always a plurality of relation, *i.e.*, his doctrine of objective relativity. Both these points he recognises most firmly, and these are the kinds of relativity which regulate his whole thought on the subject of Infinite and Absolute. He would most thoroughly have repudiated his critic J. S. Mill's "substantial" doctrine of relativity, *viz.*, that knowledge is only or mainly relative when it is held to be an impression on the mind from an unknown object or world. This Hamilton would have regarded as not properly a doctrine of relativity at all, inasmuch as the knowledge given in self-consciousness is possible apart from it, and he would have repudiated it further as based on the wholly illegitimate and improbable hypothesis of an existing yet unknown and unperceived cause of impressions. And as to two objects being necessary to knowledge, Hamilton has, with the requisite limitations, laid this down both on the subjective and objective sides of knowledge,—both in his dualism of subject and object, and in his doctrine of intrinsic relation in the object known.* Mill was strong in the sphere of what Bacon would call the *axiomata media;* but he has hardly come face to face with the higher questions of speculation as stated by Hamilton; and, I venture to think, he has misconceived the essential doctrines of Hamilton's philosophy.

I cannot do more than refer to the development and application of Sir W. Hamilton's doctrine of the Infinite to theology, which Mansel essayed in the famous *Bampton Lecture* of 1858.

* Compare appendix to *Discussions*. On this and some other points the reader may be referred to the appendix to the *Memoir of Sir W. Hamilton*, by the present writer.

This, and other criticism of Hamilton's theory by Professor Henry Calderwood, in his *Philosophy of the Infinite* (1854, 3d edition, 1872), would carry me far beyond present limits. * I can only now say that I think Mansel's development and application of Hamilton's views questionable, and that Professor Calderwood's criticisms, however acute, seem to me not to touch the essential points in Hamilton's doctrine of our knowledge of the Infinite. How far and in what way our fundamental intellectual and moral conceptions are rationally predicable of an Infinite Being, is the unsolved problem of Metaphysics.

From the middle of last century down to a date well past the first quarter of the present, the important branches of Logic, Deductive and Inductive—especially the former—were imperfectly treated in the Scottish Universities. The Experimental Method of Inquiry, as it was called, which, through the precept of Bacon and the practice of Newton, had become dominant in Britain, greatly affected the habits of thought in last century in Scotland. Its results were so great and brilliant, and its promise so high, that there was an unreasoning reaction against Deductive Logic. This was, unfortunately, shared in by the leaders of abstract thought at the time. Even Reid, though he has left us a very intelligent abridgment of the *Organon*, could sneer at "the syllogistic art" as a mechanical mode of reasoning by which in all cases truth and falsehood might be accurately distinguished.† This echo of the crudities and puerilities of Locke on the subject was caught up by Dugald Stewart, who seldom loses an opportunity of speaking disparagingly of "the logic of the schools". Owing to a current of opinion of this sort, Logic, as a science and organic branch of Mental Philosophy, ceased to be studied in the Universities of Scotland. It was treated in a cursory manner as an intellectual curiosity which had enjoyed the attention of men in "the dark ages," but which must give way to new and fresh studies conducted by the advanced intellects of the time. And what was the substitute for this in the chairs of Logic? Let us take Glasgow as a sample, and it is a fair one of the other Universities. With the appointment of James Clow to the Logic chair there in 1752, we had the beginning of the new and improving themes. "He dedicates, we are told, the greater part of his time to an illustration of the various mental operations, as they are expressed by the several modifications of speech and writing, which leads him to deliver a system of lec-

* Dr. Calderwood, who was appointed to the Chair of Moral Philosophy in Edinburgh in 1868, is also the author of *Handbook of Moral Philosophy* (1872).

† *Statistical Account of the University of Glasgow. Works*; p. 735.

tures on General Grammar, Rhetoric, and Belles Lettres."* This sphere of lecturing, the greater part of which was wholly extraneous to the subject of the chair, continued to be that of the Logic Professors in Glasgow for more than a century—in fact for 112 years. The result was that the chair became wholly tutorial—any scientific development of Logic from its principles was never dreamt of. Contribution to the literature of Philosophy was entirely unknown. Some of the more obvious rules of syllogism and fallacies were taught carefully and efficiently; but that was all so far as Logic was concerned. Even the psychology given was limited, and metaphysical questions, so far from being discussed, were not even stated—and this in a University to which we already owed the logical treatises of Carmichael and Hutcheson, and the speculative thought of Reid! A system of patronage, narrow and nepotic, vested in the College, was the means of propagating this miserable traditionalism.

It was not until Hamilton fully and lucidly set forth the true character and place of Formal Logic as a branch of Mental Philosophy, in his article in the *Edinburgh Review* of 1833, that the study recovered its true position in the Scottish Universities. Of the influence of this remarkable essay we could not have a better illustration and evidence than in the *Elements of Logic* of the late Professor Spalding of St. Andrews—one of the ablest of our modern text-books, and one which shows the high tone of teaching in that ancient though small University from 1845 to 1860, the recovery, in fact, of its mediæval prestige. One of the earliest treatises which aimed at extending a knowledge of Hamilton's logical system beyond the class-room was an *Essay on the New Analytic of Logical Forms*, by Thomas Spencer Baynes (1850), now Professor of Logic in St. Andrews. Mr. Baynes is also the author of a *Translation of the Logic of Port Royal* (1850). Both works show the influence of the logical and historical spirit of Hamilton on a sympathetic student.

The same influence which acted in Scotland extended to Oxford and freshened the faded dialectic of that university, as represented by the meagre and inaccurate compend of Aldrich, for the *Outline of the Necessary Laws of Thought* by William Thomson of Queen's (1842), now Archbishop of York, and the able, learned, and valuable logical writings of the late Dean Mansel are the almost direct inspiration of Hamilton. We have to thank Oxford for Whately's *Elements of Logic* (1826), as one of the most useful and practical books on the subject which we yet have; but Oxford has had to look to Scotland rather than to its own Oriel for a systematic development of the science, and for the learning needed to correct blunders in its nomenclature

* Reid, *Statistical Account of Glasgow*. *Works*, p. 735.

and history. The most recent addition to the literature of Logic in Scotland is by Professor Bain of Aberdeen, who has given us two important treatises on Inductive and Deductive Logic. His deductive logic is marked by Mr. Mill's peculiar view of the syllogism, which need not at present be discussed. It is curious and interesting to find that one who may be regarded as the most eminent of the school of Locke in Scotland in our time, has written valuable works on that department of philosophy which Locke himself so greatly misunderstood and contemned.

We have not had in the Scottish Universities any marked attempt at a demonstrative system of metaphysics, unless in the case of the late Professor Ferrier.* Ferrier has been the most accomplished opponent of the observational method in these times in Scotland. His system shows the influence of Fichte and Hamilton, chiefly of the latter; for Ferrier's subject-object as the absolute is clearly derived from Hamilton's subject-object as the relative. Ferrier's contribution to Philosophy is the attempt to reason out an absolute system from this as a basis. It seems to me, however, that the basis of his *Institutes of Metaphysic* is essentially ambiguous, and that his application of the law of Non-Contradiction, by which he seeks to give coherence to the reasoning of the system, is a misapplication. The first four propositions of the *Institutes* contain at least two distinct, and even contradictory, meanings. These are (1) That the object is known along with the subject of knowledge or self; (2) That the object of knowledge is always object + subject. These are two totally different propositions; the former implies simply correlation of subject and object, the latter implies integration. Nobody need dispute the former; the latter requires to be proved, and we must ask for a test of subject and object in the object of knowledge. How is this to be got, if we never know either separately? Further, the nature of this object of knowledge cannot be proved by the law of Non-Contradiction, for the simple reason that this law cannot come into play until it has got a definite datum to guarantee and keep consistent with itself, and the mere consistency which it gives is subsequent to the datum, not demonstrative of it. And, further, it is an utter misconception of the law of Non-Contradiction to suppose that, dealing with a datum of our consciousness, it can go beyond this, and extend it as a law to all possible intelligence. This is to make a primary analytic principle the ground of a synthetic judgment.† What

* *Institutes of Metaphysic*, 1854. *Lectures and Remains*, 1866.

† I have discussed the true sphere of the law of Non-Contradiction, with special reference to Ferrier's views, in an appendix to the *Memoir of Dugald Stewart*, published in 1858. *Works*, Vol. X.

XUM

knowledge is, the law of Non-Contradiction cannot tell us; whether knowledge, as we find it, is essentially the same with all intelligence, it can as little tell us. I venture to think the *Institutes* a reasoned failure, and the failure is inseparable from the attempt. But the ease, the grace, the brilliancy of the style of the *Institutes* will make it always a memorable book in Scottish Metaphysics.*

Professor Fraser, who succeeded Sir W. Hamilton in 1856, has now held the chair more than twenty years—the extent of Hamilton's occupancy. During his years of teaching, in which he has quickened many a youth to speculative inquiry, he has made numerous contributions to the literature of philosophy. The most important of these is his edition of the works of Berkeley, with the Life and account of his Philosophy. Professor Fraser cannot be regarded as a Berkeleyan in the ordinary or technical sense of the phrase, as against a realistic point of view: a certain form of Natural Realism, indeed, comes very close to a possible interpretation of Berkeleyanism. His interest in Berkeley seems to be twofold—first, as a writer who has been powerfully influential in the development of modern speculation, and secondly, as one whose philosophy may be interpreted as a system of spiritual causation, and thus as beneficial in exhibiting and correcting prevailing materialistic assumptions.

All through the Scottish school and Reid, there is a revulsion from a mechanical or physiological explanation of mind. The naturalistic doctrines of Hobbes, Hartley, and Priestley led in part to this; and the evident tendency of Hume, in so far as he is dogmatic, to regard it as possible to explain the mind, or states of consciousness, on a principle akin to gravitation—an attraction and aggregation of sensations with its results—decided Reid in this attitude. The general position of the school has thus come to be that of a resolute maintenance of a distinction between physiological and psychological facts. The former are at the best but regular antecedents of the latter—conditions, but not causes, in any proper sense of the word. The doctrine of "the transmutation of energy," as it is called, was not developed in Reid's time;

* In the *Lectures and Remains*, Ferrier shows a tendency to take up Hegelianism, though he never came definitely to an acceptance of the system on its fundamental principles. The fact that the system is one that reverses ordinary points of view formed quite an attraction for his subtilising intellect. Any introduction of Hegelianism into this country since the time of Ferrier has been attempted without any real effort to vindicate the principles of the system, or to estimate its logical consequences. It will be time enough to examine it minutely when it passes the dogmatic stage of assertion, or the assumptive stage of the application of principles to fact and history, which are not vindicated as legitimate either on grounds of reason or fact.

but both he and Stewart would have said that there is, and can be, no evidence of the passing of a nerve energy into even sensation, to say nothing of thought, or will, so that any one of these is an equivalent of a definite quantity of force. The facts of mind or consciousness were to them wholly *sui generis.* Since their time, greater attention has been given to the physiological side of the mental phenomena. Hamilton, though he rated such inquiry at little as a means of throwing light on mental phenomena, somewhat broke down the barrier between the physiological and the psychological in his doctrine of sensaation, which he latterly held to be a state, not of the mind alone, but of mind and body interpenetrated, and thus opened a way for the advance of physiology upon psychology.

Professor Bain of Aberdeen, in his able and important works in Psychology, may be said to have returned to the method of Hartley, but with greatly better appreciation of the requirements of the problem to be solved. This method may be said to be that of the Natural Sciences, and what he undertakes to evolve is a natural history of Mind, or explication of the states of consciousness, which he regards as *feelings* in their most generic aspect. His method may be described as a mixed one—physiological and psychological. Purely psychological study he regards as abstract and incomplete. Starting from a physiological basis, he describes the physiological structure and facts, and the states of consciousness which are connected with them. He has gathered together a large mass of details, and he has made very delicate and valuable observations. He is strong in descriptive analysis. He has sought to apply his method in great fulness to the mental phenomena—the Senses and the Intellect, the Emotions and the Will. He has greatly enlarged the idea of the physiological basis as not simply the brain, but the whole nervous system as affected by and manifested in nervous currents. But proximately mental force depends on the activity of the brain; this depends on nervous force; this again on transformation of blood, and ultimately on oxidation of the materials of nutrition. Mental force is a definite, though not numerically determinable, equivalent of combustion. This force is thus finally convertible with nervous force, and we see it again passing into its physical equivalent. Nutrition, or rather the law which creates it, is thus the ultimate cause or first form of Mind. Physical fact is single; but psychological fact has a double aspect—a physiological and a psychological. There is no mere or pure psychological fact—it is neither purely material nor purely mental. Sensation is the first or earliest mental blossom. Sensation and association are the only true elements needed to build up

Intellect. As an Associationist, Professor Bain is greatly in advance of Hartley in admitting the fact of spontaneous activity in Mind, as against Hartley's bare position that the brain simply obeys impressions. He finds, in fact, from the physiological side what Reid found from the psychological. With him it is mainly the spontaneity of muscular development; this ultimately, under new conditions, gives rise to Will. He has also very ably and ingeniously analysed the states of pleasure and pain, adopting in principle the Aristotelian law. With this are connected some of his most valuable analyses.

However important these physiological investigations may be, it is still open to doubt how far they are useful in promoting a genuine psychology. The last word of the system, absolutely carried out, is that Sensation is Motion. This is rather running us back into a less determinate idea of Sensation than we had before, simply from consciousness; and no form or kind of motion we observe can be substituted for the Sensation we feel. It is obvious, further, that the physiological research cannot dispense with the psychological method, for the correlate of the motion, the mental state, does not submit itself to vision; it stands out only in the clear light of conscious reflection. And it seems to me impossible to go deeper as a basis than Sensation or a state of consciousness; even this is never given *per se*, and is not sufficient with every possible postulate of association to afford of itself the key to human knowledge and experience.

The method of reflective analysis in philosophy—the analysis of experience and its conditions as realised in consciousness,—this is the old method which has been more or less faithfully practised in Scotland, we may say in Britain, since the time of Locke. There is still in it hope for the future. It has been somewhat narrowly understood and applied among us. Its true sphere is not merely the consciousness of the individual; it is the consciousness of the race. I see hope for philosophy in this slow, careful, almost painful method, if it be extended in its scope beyond the individual consciousness to the phenomena of animal life, to the course of history, to philology, political institutions, and scientific thought. Wherever and howsoever man has expressed himself, thither and through that form, through its origin and genesis, reflective analysis should follow him. The great defect of Scottish thinking has been its narrow acquaintance with the history of philosophical opinions, and its limited erudition. Of all the thinkers in Scotland since Hutcheson, Hamilton alone has redeemed the character of the school in this respect. Recently we have had an important addition, if not to the history of philosophy, at least to the literature of a kindred subject, in Professor Flint's able treatise

on the *Philosophy of History in France and Germany* (1874). We need, however, more than ever not only technical learning, but imaginative power of historical reproduction. All man has said and done is but a realised consciousness. Let this be fairly recognised by the reflective method, and we shall gradually approximate, not by demonstration but by observation and analysis, to a knowledge of the full contents and development of experience—of that vast sphere of being which is successively revealed to our personality.

"There was no place in Europe," said James Melville, speaking of Glasgow College in 1575, "comparable to Glasgow during these years for a plentiful and a gude chepe mercat of all kynd of langages, artes, and sciences." * The Scottish Universities have been faithful to the tradition of a high education and a cheap education; and they have thus been the Universities of the nation, not of a class; on the whole, they have shown a high education and a cheap education to be not incompatible. And in Philosophy they may fearlessly stand questioning as to the promotion of research. At the same time, it must be admitted that in some respects the research would have been fuller and wider had it not been for the poverty which weighed it down, and the height of the education would have been greater but for its cheapness.

It is a self-glorious commonplace at British Association gatherings to say that, while the present is pre-eminently the age of scientific progress and eminence, it is one of decline in literature and philosophy. This is one of those judgments, without reasons annexed, which we find given out in a somewhat off-hand and dogmatic fashion. It means very much that the speaker is judging of things only by what is open to his own vision. It is unfortunate, not for philosophy itself, but at least for its popular appreciation, that its processes and, to a considerable extent, even its results cannot be made palpable to the crowd. These must be thought out by the individual whom they are to stimulate and benefit. The mass of men have neither the leisure nor the training to enable them to do so. The results of scientific processes on the other hand, if not the processes themselves, can be made obvious to the senses, and palpable to the crowd. An analysis of space, or time, or causality, or even logical method, though essential to the completeness and even the vindication of scientific knowledge, cannot be exhibited like the spectroscope or the electrometer. But it would be a very narrow and ill-informed mind which would straightway, there-

* *Diary*, p. 78.

fore, pronounce the abstract work to be inferior in value or influence to that done by the scientific man. Looking only to the last twenty-five years of Scottish University history, there have proceeded from men occupying chairs of Logic and Moral Philosophy, contributions to philosophy characterised by an amount and quality of intelligence, by a painstaking industry and research, by a patience of reflective genius, which are not surpassed by any form of scientific effort in the same period. And among these writings there are some which show a culture and catholicity utterly unknown amid the specialisms of science. Public recognition or reward these workers seldom get, and probably do not much care for. What is offered to them is more frequently an insult than an appreciation. One hundred a-year was offered by a government of Great Britain to Hamilton, when he was poor and ill. It was, of course, indignantly spurned by him. But the work of such men has an influence which even politicians come to recognise, when they find it expedient. The results of abstract thought on practical life can seldom be immediate; they are first felt in individualism of character, and through that silent power, time will gradually work out, unobserved by commonplace stolidity, the changes of moral, political, and theological opinion.

JOHN VEITCH.

VII.—CRITICAL NOTICES.

The Physiology of Mind. By HENRY MAUDSLEY, M.D. London: Macmillan & Co. 1876.

Dr. Maudsley's well-known work on the *Physiology and Pathology of Mind*, having gone through two editions since its publication in 1867, is now being re-issued in an altered form. The original first part, revised and enlarged, appears as a separate volume, and the *Pathology* as an independent work will follow in due course.

The success of the book from its first appearance has been well deserved. To say nothing of the special value of the pathological section which in the new issue is not yet before us, it is impossible to read Dr. Maudsley's general chapters on the method of psychology and the relation between mind and the nervous system, or his more specially physiological chapters with a psychological reference, or his more specially psychological chapters with a physiological reference, and not undergo a genuine intellectual stimulation. There is also throughout a certain vigour of expression which, if at times a trifle rough or even crude, not seldom is mellowed into a grave eloquence, as when, for instance, he tries to acknowledge the immeasurable debt of the individual to mankind or considers the spectacle of human striving in relation with the universal order. Nor is there lack of true scientific insight, whether as turned upon the workings of mind generally, or upon the special questions that have engaged the attention of recent psychologists. On the subject of unconscious mental life, no English psychologist is more to be regarded than Dr. Maudsley. Few understand as clearly the import of the motor side of the human system—what he calls Actuation or Effection—in the explanation of knowledge. And, to mention one other point only, the very last paragraph of his present volume, where he shortly considers why we have no exact memory of pain, contains a suggestion most strikingly illustrative of the advantage, or rather the necessity, in studying Mind, of keeping that unceasing hold upon physiological conditions for which it is his real object to contend.

It is Dr. Maudsley's general position that most claims attention on the issue of the present work as an independent theoretic treatise. What is that notion of 'Physiology of Mind' which he seeks to put forward? The words may either mean, in a general sense, 'Natural Science of Mind,' 'Psychology as Natural Science,' or they may mean a theory of Mind in relation with the special sense of physiological science. To Dr. Maudsley, within the compass of his book, they seem to mean both the one and the other, or, rather, now the one and now the other, according to his mood—and his mood varies. It is not possible to urge more forcibly than he does how unscientific any doctrine of mind must be that is not based on experience, and what a range of experience (all, in a true sense, natural) is available for scientific psychology. In the words of his own summary, "the study of the plan of development of mind, the study of its

forms of degeneration in the insane and criminal, the study of its progress and regress as exhibited in history, and the study of biography," may none of them be neglected. All this he understands as included in the inductive method objectively applied to the investigation of mind, and such a treatment might with good reason be called, as he sometimes calls it, physiological. But, of course, the word is ambiguous, and in general, throughout the work, he has the other meaning in view, according to which the scientific doctrine of mind is to be called 'physiology,' because mental phenomena are specially connected with the organic processes of the body generally, and the activity of the nervous system in particular. Physiological investigation of the nervous and general bodily system has in recent times made great and steady progress, and it is Dr. Maudsley's great contention that the hope of attaining positive knowledge concerning mind is bound up with the advance of physiological science in the strictest sense of the term. Therefore, in his first edition, he made an "energetic exposition" of the shortcomings of what he calls variously "the method of introspection," "the method of self consciousness," "the metaphysical method," "the psychological method," and also "psychology" simply. And though he seeks in the present edition "to maintain the level of a more sober style," because he is no longer so young and enthusiastic, and, besides, "the physiological method" seems to him now-a-days to stand above the need of defence or advocacy, he yet abates not one jot of his old antagonism to any doctrine of mind that is not in the special sense physiological. How does he then understand such a doctrine?

Here again his mood varies, and now in a way that is not a little surprising. When the fit is on him, Dr. Maudsley will hear of nothing but physiology—physiology of brain, and woe be to the luckless introspectionist who ventures to think of profiting by physiological discoveries and would fain thereby seek to "put meaning into the vague and abstract language of psychology: that would simply be to subject physiology to the tortures of Mezentius—to stifle the living in the embraces of the dead". There is no question of brain *and* mind, but it is "brain *or* mind"—"mind *or* brain"; and "mind" is to be understood as "mental organisation," and this again as "that organisation of brain which ministers to mental function"; for "the substance beneath" is brain and only brain. Of course, then, there is no room but for physiology. The scientific inquirer must work up from vital to mental phenomena, and this he can do so perfectly upon the strictly physiological track, that it is nothing short of a pure hardship for him to have to express his results in the terms of psychology —so vague, so obscure, so figurative, so full of theory and the theory false, &c. &c. Because there is continuity between the physical processes of life in the organism and the physical processes that have been discovered to be concomitant with the phenomena of mind, Dr. Maudsley will have it that brain and mind differ not otherwise than an orange touched differs from the same orange seen; and thereupon he declares in a tone he loves to assume—"Above all things it is

now necessary that the absolute and unholy barrier set up between psychical and physical nature be broken down." No wonder, if the psychical is just a kind of physical, that he cannot have patience with introspective psychologists trying to link their notion of mind with the rich discoveries of physiology, and must tell them, whether in sober style or not, that they seek "an unhallowed and unnatural union which can only issue in abortions, or give birth to monsters". But when the fit is off, or rather in its pauses—for it is never quite off—we hear another strain. There is a "happy bridal union from which we may expect vigorous offspring," and what may this be? It is "the union of the subjective and objective methods," and this is declared to be the true method of psychology—physiology no more. Dr. Maudsley at an early stage of his exposition adopts Comte's superficial objection against the possibility of self-introspection; but, like Comte himself, he finds he can practise it perfectly well whenever there is occasion (as when is there not?). Hear him when he is in the vein.

"We can observe the associations and sequences of mental states without knowing their physical antecedents. Moreover, when we have discovered by objective inquiry the physical antecedents, we must still depend upon the help of subjective observation in order to establish the exact sequences of the mental states, which we only know by introspection, to the physical states which we observe and make experiments upon" (p. 47). Again (p. 61): "Everybody (?) can perceive that feelings, ideas, volitions are known through self-consciousness, and have only a subjective meaning. And although they may, and no doubt do, correspond to what, I suppose, we may call objective changes in the nervous system, we cannot know them by objective inquiry, any more than we can know the material changes by mental introspection. No observation of the brain, no investigation of its chemical activities, gives us the least information respecting the states of feeling that are connected with them; as has been aptly remarked, it is certain that the anatomist and physiologist might pass centuries in studying the brain and nerves, without even suspecting what a pleasure or a pain is, if they have not felt both; even vivisections teach us nothing except by the interpretation which we give them through observation of our own mental processes."

Nay, so certain is Dr. Maudsley now of the facts of subjective experience, as revealed by self-introspection, that he does not hesitate with the veriest idealist that ever was to declare that, when we are dealing with purely natural forces such as electricity and chemical affinity, and the changes in matter to which they are sequent, all the "sequences, as known to us, are only states of consciousness"! (p. 63).

Might Dr. Maudsley then fairly disclaim, as he originally did, any "absurd attempt to repudiate introspective observation entirely"? Assuredly. But might his critics as fairly charge him with seeking "to employ the physiological method exclusively"? Assuredly also. This is what comes of an exposition so very "energetic" in one phase as to exclude the possibility of there being another or make its later recognition a piece of gratuitous, and not quite harmless, inconsistency. The time is long past—if there ever was a time—when such an advo-

cacy of the 'physiological method' could serve a good purpose. Since when has there been any indisposition on the part of serious psychologists to accept all physiological results, really established, that have a bearing on the conclusions obtained by what Dr. Maudsley himself, as we have seen, allows is the perfectly legitimate and indispensable method of introspective inquiry? Let physiologists bethink them why on their side it is only so recently that results have been obtained worthy of being taken into account for the general science of mind. It will be time enough to deride the willingness of psychologists to appropriate the results of physiology, when physiologists show not less readiness to pay heed to the best results of the introspective method, instead of themselves making crude attempts at psychological analysis. Meanwhile, the energy of Dr. Maudsley's exposition can only have the effect of confirming the unwary among his brethren in the very attitude of psychological ignorance which, happily for himself, he has never seriously maintained.

Curiously enough, too, in this so-called *Physiology of Mind*, while it is those parts of the book where Dr. Maudsley is constrained to become the advocate of the method of introspection that are most to be recommended to physiologists, the more strictly physiological parts are not in turn those which the psychologists need most to lay to heart. Even before the present generation there have been professed psychologists as deeply imbued as Dr. Maudsley himself with the physiological spirit, though unlike him in keeping steadily in view, and not forgetting and remembering by turns, the subjective aspect of mental life. But one thing the psychologists have been slow to learn —the necessity of studying mind on a broader scale than the self-consciousness of the individual or of studying the individual mind in express relation to the social environment wherein it is developed. Now of this necessity Dr. Maudsley has so firm a grasp that, though he impresses it but incidentally in his book, he truly deserves to be distinguished as one of the pioneers in a path of inquiry which English psychologists must no longer delay to tread. True, the introspective analysis they have pertinaciously followed out is the indispensable foundation for effective conclusions on this or any other line of positive inquiry in relation to mind,* to say nothing of its import for general philosophy, which comes little into Dr. Maudsley's view. Yet there could be no greater mistake, in trying to deal scientifically with such a subject as Mind, than to be slow to adopt a new point of

* This was a point well urged by Mr. Stewart in MIND No. IV., in his short paper entitled 'Psychology—a Science or a Method?'. Mr. Stewart did not, however, carry me with him to his conclusion that psychology is a method and not a science; and when he represented this as the position of earlier English inquirers like Hume, he surely overlooked the emphatic assertion in the introduction to the *Treatise on Human Nature*, that the object was to obtain a "science of man" by the same method of "experience and observation" as had recently led to the extraordinary advance of physical science; though with this was coupled the philosophical idea that the science of man when thus got would form "the only solid foundation for the other sciences".

view, so obviously suggested by the advance of other special sciences and by the growth of the conception of order as pervading every way the stream of phenomenal occurrence. For all the psychological books that have been written, with or without regard to the strictly physiological conditions of mental life, we are still far from understanding the actual process of development of the mind, related as it is in every individual not only to the world of natural experience but to that complex of conditions which, while also natural in a wider sense, are, for men at least, properly called social. All credit is due to Dr. Maudsley for his intelligent appreciation of what remains to be done on this side for psychological science; and only there is room for regret that he cannot advocate this or any other true conception without marvelling overmuch at the intellectual weakness of those who cling to that subjective study of mind which first engaged the attention of philosophic thinkers and may not be neglected to the last even by 'mental physiologists'.

EDITOR.

A Treatise on the Moral Ideals. By the late JOHN GROTE, B.D., Professor of Moral Philosophy in the University of Cambridge. Edited by JOSEPH BICKERSTETH MAYOR, M.A. Cambridge: Deighton, Bell, & Co.

THIS posthumous work has the merits and defects which a reader of Prof. Grote's already published treatises will naturally expect to find. It is rather subtle than exact, rather comprehensive and impartial than systematic or in any way exhaustive: full of fresh and independent thought, just criticism, and fine psychological observation, as well as elevated moral sentiment, and sagacious practical counsels; but not in the highest sense original or penetrating in the treatment of ethical theories. Thus, while there is no living thinker who may not learn much from it, it is hardly likely to have a marked influence on contemporary thought. It should be observed that the impression of inexact and unsystematic exposition which the work, as a whole, produces on the reader's mind, is partly due to the fragmentary condition in which it was left; and partly also to the editor's plan of supplementing the gaps in it by extracts from other unpublished manuscripts of the author: though the reader cannot fail to be grateful for these additions, which seem to have been most carefully and judiciously selected.

At the same time, we seem to notice here and there a deliberate avoidance of precision and systematic completeness. Prof. Grote indeed tells us (p. 139) that "exact classifications in a subject such as we are now dealing with are a mere appearance"; and again (p. 138) that "objective morality . . . is not anything which can be expressed in any sort of way in a code or system". Several other passages might be quoted to the same effect. It is true that, as the editor contends, Prof. Grote was by no means indifferent to the advantages of clearness and consistency; but we can hardly concede

that he was "remarkably free from hastiness and looseness of thought," except in a very limited sense. His dissertations on Virtue, Duty, Wrong-doing, Happiness, Character, &c., all contain a rich fund of mature reflection, but the form in which this is communicated is by no means free from the defects of haste. Again, when he is engaged in describing the relations of different points of view, or distinguishing the different meanings of common terms, his subtlety and clearness of discrimination often strike one as masterly; but this clearness is not equally maintained in his more detailed development of views, or in his habitual use of his own cardinal notions. Nor, finally, does he seem to succeed in his main purpose of combining into a harmonious whole the chief competing systems of moral philosophy; though his impartial study of their mutual relations has led him to several valuable suggestions for such a combination.

The main plan of the treatise is sufficiently indicated by the characteristic phrase "Aretaics and Eudaemonics" which heads the first chapter and was originally intended for a title to the whole work. Both Aretaics or the "Science of Virtue," and Eudaemonics or the "Science of Happiness," are required, in Prof. Grote's view, to make a complete moral philosophy; the former dealing with man as an active being, the latter considering him as a sentient (or pain-feeling and pleasure-feeling) being. The reason for regarding these as two distinct sciences is, we are told, that man's "activity and his sentience are two independent portions of his nature, each as early, as native, and as important as the other". Now we can no doubt conceive a purely speculative study of human feelings, which should keep clear of any reference whatever to action; a study which would merely aim at distinguishing and classifying the different species of pleasures and pains, and investigating their causes, without entering into the question whether and how far the former were to be sought and the latter shunned. But this does not correspond to our author's conception of Eudaemonics: for he gives as the "fundamental axiom" of Eudaemonics, "that pain is a thing undesirable, or to be avoided," the antithetical axiom of Aretaics being that pain is "a thing not to be inflicted". Now the proposition "that pain is to be avoided," clearly deals with man as an active being: it directs him to action for the avoidance of pain, as Prof. Grote afterwards (p. 145) clearly sees. And if we take the axiom generally, understanding it to be "that pain is a thing undesirable for *any one*," not merely "for me," it necessarily includes the fundamental axiom of Aretaics. For if pain be something which (as far as possible) no one is to suffer, it must obviously be something which (to an equal extent) no one is to inflict: the two statements are merely two sides of the same practical principle. Eudaemonics, in fact, if it is to be practical at all, must claim the whole sphere of human activity; to relinquish any portion of it to a separate science of Aretaics would be an act of the most illogical and suicidal moderation.

A similar criticism must be passed on our author's attempt in ch. vi to hold the balance even between Utilitarians and their opponents in

expounding his theory of the "value of action in the abstract". Actions, he says, have two kinds of value, eudaemonic and aretaic, each of which may be taken as a part or element of the full moral value of actions in the universe. Their eudaemonic value is, of course, proportioned to their "usefulness," or tendency to promote happiness; but their aretaic value depends on a quality quite different from, and in a manner opposite to this—the degree, namely, of "generosity," "self-forgetfulness," "non-value for [one's own] happiness," with which they are done. Here, again, it seems obvious that a sincere acceptance of the principle of maximising happiness *generally* involves a readiness to sacrifice one's own happiness to the greater happiness of any one else, in case of a conflict of interests. No doubt from a Utilitarian point of view this readiness has only a secondary or derivative value, depending on the existence of this (real or apparent) conflict of interests: and it may still be urged on Prof. Grote's side that our common moral consciousness recognises an *independent* value in self-sacrifice: to which Utilitarians may reply that common sense condemns *some* self-sacrifice as extravagant and that no satisfactory criterion of right and wrong self-sacrifice can be suggested, except the Utilitarian. In short 'Eudaemonics' has necessarily its own peculiar theory of Virtue, Moral Excellence, Moral Value; which may be more or less effectively attacked, but which it is idle to treat as non-existent.

Nor am I prepared to assert that Prof. Grote does so treat it. Indeed, as we advance further in the book, it becomes somewhat difficult to see how he draws the line between Eudaemonics and Aretaics. This difficulty is partly due to his treatment of the latter inquiry. Though he argues with much clearness and force (in ch. ii.) that "Aretaics is ideal in its very essence," and makes many interesting and some profound remarks (chs. iii.-v.) on the nature of the Moral Ideals, and their relation to Intellectual Ideals, he does not seriously and directly attempt to expound the principles of Aretaics from this point of view. After a subtle and suggestive account of the general notion of Duty as compared with the cognate notions of Virtue and Law, he passes rather unexpectedly from ideal to what he characteristically calls "observational Aretaics": that is, instead of a construction of ideal Virtue on rational principles, he gives us (chs. viii., ix.) an analysis of Virtue as a "fact in the world," a generally recognised and admitted feature of human life. Virtue thus viewed is found to consist of three elements, benevolent impulse, sense of duty, and love of excellence. Of these the former is given as primary and principal, though the two latter are indispensable supplements: "Virtue (we may say) is benevolence, more or less stimulated and regulated by the accompanying sense of duty and love of excellence". But Benevolence, or "the disposition to do action for a good purpose," is expressly characterised by our author in such a manner as to refer it to Eudaemonics, if this be (as defined in ch. i.) the science which deals with man as a sentient being: "By Benevolence," he says, "I have wished to indicate the effect on us, as *sentient beings*, of a number of beings *sentient or feeling like ourselves*, into whose feelings we enter". While again in ch. x.

XUM

the proposition "that pain is not to be inflicted" seems to be treated as essentially an application of rational benevolence, necessary to counteract the effect of "bare equity or fairness" (pp. 213, 214): though in the preceding chapter (pp. 144-147) "*Neminem læde*" is given as the fundamental maxim of Conscience (or the sense of Duty) in contradistinction to the axiom of Benevolence "Love all in their degree". The truth is that the division between the sciences of human activity and human sentience, proposed in ch. i, is far too unnatural to be maintained, and therefore becomes an inevitable source of confusion: while at the same time it tends to prevent a fair and full discussion of the claims of Utilitarianism to regulate activity by sentience.

The value, then, of Prof. Grote's Aretaics certainly does not lie in lucid development of its relation to Eudaemonics, nor indeed in its systematic character generally: but rather in the discussions on special points of morals, scattered historical *aperçus*, fine psychological observations, and subtle analysis of complex sentiments. I may refer for illustration to his distinction in ch. viii of the different feelings called vaguely "benevolent," to the account in ch. ix of the Love of Excellence as the regard for moral value modified by rivalry, and of the Sense of Honour as the same regard with a special stress laid on that imagination of the judgment of others which normally accompanies all our moral judgments. Again, the whole account, (in ch. x and its appendix) of the principles of distribution of services considered first ideally and abstractly and then in relation to existing law, is worth studying: and the different elements in the common notion of Justice are well discriminated. The following is one of the apt corrections of traditional commonplace which Prof. Grote delights in supplying:—"It is in reference to its character as impartiality, and as being 'no respecter of persons,' that Justice is drawn blind. . . . Justice might perhaps better have been drawn with many eyes to see the difficulties which from opposite directions beset impartiality, and of which sinister interest is one only".

A chapter on wrong-doing (ch. xi.) temporarily concludes the "observational Aretaics". the discussion of Eudaemonics is then taken up and carried through two chapters, on Pleasure and Happiness respectively, to which the editor has appended two extracts from earlier MSS. Prof. Grote takes as fundamental a distinction which recalls the old Epicurean classification of pleasures into those ἐν στάσει and those ἐν κινήσει. His first class of pleasures and pains he characterises as "feelings of undisturbance" or rather (as he explains) feelings that involve a slight and indefinite general disturbance in the direction of pleasure and pain respectively. Pleasure of this kind he proposes to call "wellfeeling," meaning "the feeling which accompanies a normal and healthy state of mind" when consciousness is chiefly occupied with objective regards. "Pleasures of disturbance," again, he divides into (1) those which accompany the satisfaction of a want, and (2) those which do not: the latter he inclines to call "pleasures of enjoyment"; the former, "pleasures of gratification". He adds some just criticism of two opposite errors, that of Butler who only recognises pleasures of

gratification, and that of the Utilitarians who ignore the dependence of these pleasures upon antecedent desires which are not generally directed toward pleasure. He proceeds to attack Utilitarianism as mistaken, and dangerous to morality, in taking "distinct, measureable, describable pleasures" as the element of Happiness: and neglecting the more important element "well-feeling" which does not lend itself to definite measurement. The criticism is not without force; but its impressiveness seems partly due to an ambiguity in the notion of "wellbeing," to which "wellfeeling" is the corresponding consciousness. For (1) if this notion be taken in the widest sense in which Prof. Grote uses it, to include the whole variety of normal life, "enjoyed thought, emotion, action," we can surely analyse "Well-feeling" into elements similar in kind to the "distinct and exhibitable pleasures" from which it is distinguished, though they may be fainter in degree. The pleasures of benevolent affection, or of artistic emotion, or of scientific investigation, or of the exercise of skill of any kind, seem to be as definite and "describable" as those of gratified appetite. While (2) if Wellbeing be understood to mean "loving rightly, doing as we should, in which doing we feel as we should," and a strictly "aretaic" interpretation be given (as it is by Aristotle) to this notion of Well-doing; then according to Prof. Grote's theory of Virtue, it must consist in the exercise of benevolence regulated by a right view of duty: that is, practically, in bestowing happiness on the proper people. And thus, if our ideal is not to be reduced to the almost ludicrous conception of a society of human beings beneficently bestowing on each other beneficent dispositions, we must fall back on the second element of Happiness in order to give definiteness to the first.

The truth is that Prof. Grote's account of Wellbeing (and, I may add, of Beneficence) would have been more satisfactory if he had attained a clearer view of the contents of his notion of Good or Desirable as distinct from Duty or Virtue on the one hand and Pleasure or Happiness on the other. That he had faced the difficulties of this task is evident from chs. ii, iii, where he distinguishes three principal forms of the moral ideal (1) Right or Faciendum, (2) Bonum or the Desirable, (3) Happiness; and treats the first two as primary, while he regards the third as "arising from the coupling of the sensible fact of pleasure and pain with the previous ideal of 'the desirable'". But though he has given us some very interesting reflections on the general nature of Good, considered as the correlative of "Want or Egence" in the universe, he nowhere seems to have answered distinctly the questions raised in the following passage (p. 35):—"The desirable, or the 'to be desired,' is a much more complicated notion. Has it or has it not the former ideal mixed with it? Is the 'to be desired' in any way that which 'ought' to be desired? or is it 'the desired' with appeal to human feeling and human history? or is it 'the reasonably desired' pointing to some other ideal still for its interpretation?" Still less has he offered a theory, even in outlines of the particulars of Good. Indeed, though the comprehensive view of the moral ideals exhibited in chs. ii-v would rather have suggested a *three-fold* division (at least) of Moral Philosophy, in

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the main part of the treatise he seems to have worked on the basis of the simple antithesis between Aretaics and Eudaemonics, given in the first chapter; and thus is led sometimes to use "good" as convertible with "felicific," as in speaking of "good will," "good purpose"; while at other times he distinguishes "giving pleasure" from "doing real good" (p. 334).

I have not left myself space to notice the remaining chapters on "moral elevation," "the relation of the ideals to higher and lower fact" "actual and ideal human nature," the "goodness of custom." and "the relation of the individual to custom," "character, will and education," "discussion, controversy, war," and the "importance of right belief". The treatise perhaps becomes somewhat more *décousu* as we approach the end, without however losing in interest. Many of the doctrines developed in the book will be familiar to readers of the *Examination of Utilitarianism:* but Prof. Grote was too fresh and fertile a thinker to repeat himself tediously.

H. SIDGWICK.

Les Causes Finales. Par PAUL JANET. Paris: Germer Baillière, 1876.

THIS work, from the pen of an eminent representative of philosophical spiritualism, aims at presenting the particular theory of Final Causes maintained by this school with greater fulness and systematic exactness than has yet been done, and at the same time of re-asserting the importance of the teleological conception of the universe in the face of the contempt cast on it by modern science. The work consists of two parts answering to what may be called the scientific and the metaphysical problem of finality. The first deals with the question whether finality or the adaptation of means to ends *(Zweckmässigkeit)*, is a law of nature, the second is concerned with the inquiry into the ultimate cause or principle on which such finality rests. This order of treatment is much the same as that adopted by E. von Hartmann in expounding the related principle of an unconscious will and intelligence in the universe.

M. Janet begins by giving us a definition of final cause. As presented to us in experience it is "an effect, if not foreseen at least predetermined, and which by reason of this predetermination conditions and commands the series of phenomena of which it is in appearance the result". It strikes one that M. Janet's caution in separating the problem of adaptation from that of its interpretation when ascertained forces him here into an unmeaning abstraction. How a result can *command* an antecedent series of events apart from some mode of prevision is not easily conceived. In truth the writer is forced again and again in spite of his professed postponement of the question of a prearranging intelligence to concede that finality has no meaning apart from an antecedent mental representation of the dominating result.

That there is such a thing as finality in nature cannot, says M. Janet, be known *a priori*. Unlike the law of causality it is, to speak in

Kantian language, a "regulative" not a "constitutive" principle. If valid, it must be justified as the teaching of observation and induction. This, by the way, is clearly to assign to the idea of aim (*Zweck*) a much more modest rank than is claimed for it in other systems, for example the Hegelian. How does experience supply us with a basis for this induction? This is M. Janet's argument. A glance at the order of events in nature shows that it is made up of separate chains of phenomena each of which is sufficiently held together by the law of causation. But in addition to the separate threads there are the juxtapositions—co-existences as well as successions. If these are rare and few in number they do not require explanation; if, however, they are numerous and complicated, they have to be accounted for. Sometimes this may be done by a mere reference to a previous arrangement of causes (as in explaining the frequent presence of sea-shells on mountains); at other times this is impossible, namely whenever the recurring combination has the "character of being determined relatively to a future phenomenon more or less remote". In these cases the relation of the coincidence to the future phenomenon is an additional element needing explanation, and this involves the conception of "a cause in which this future phenomenon is *ideally represented*". [Surely this is to admit that finality apart from mental representation is meaningless.] Thus we reach finality as a fact or law of nature. "We set out from a fixed point given us in experience as an effect: but this effect not being possible except by an incalculable mass of *rencontres*, it is this agreement among so many coincidences and a certain effect which precisely constitutes the proof of finality." The conditions of this proof, it need hardly be said, are found by M. Janet in a conspicuous form in the numerous and complicated adaptations of organ to function. He argues that the complexity and heterogeneity of the co-existences entering into the formation of an organ and still more of an organism wholly preclude the idea of fortuitous coincidences, since in these cases such coincidences would have to be conceived as infinite in number.

But allowing that finality, in the meagre signification which M. Janet has hitherto endeavoured to assign the term, is proven, how are we justified in inferring that it implies some form of intelligence? By the argument known as analogy, answers our author. Having a direct experience of pre-arrangement in our own voluntary actions, we reason that a similar cause produces the adaptations of nature: "The same effects imply the same causes". The reasoning is of the same kind as that employed in inferring that the actions of our fellow-men and of the lower animals are preceded by conscious purposes. It differs from this mode of conclusion only in the degree of the probability. M. Janet labours hard to show the close resemblance between the industry of man and that of nature which in its progressive stages employs means of greater and greater complexity, and involving more and more deliberation.

M. Janet then endeavours to determine the right relations of the teleological and the mechanical method of interpreting nature. The invariable employment of the latter does not, he says, exclude the

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former, since the means which conspire to produce a given result must always work according to mechanical laws; only in addition to this physical explanation the ingredient of fitness already emphasised requires an intellectual solution.

The argument of the First Book is brought to a close by a consideration of the principal objections commonly urged against the doctrine of finality, and by a separate discussion of the theory of organic evolution in its older and newer forms. The author here presents the difficulties of his theory in their full force, and however inconclusive some of his answers may be, they frequently display considerable ingenuity. In reviewing Mr. Darwin's theory he follows previous objectors both in throwing doubt on the principle of natural selection as a dominant cause of organic transformation, and in contending that the useful variations which are to be preserved by natural selection themselves imply purpose. This line of remark is followed up in an appendix devoted to an examination of Mr. Spencer's biological principles.

The reader will perceive from this brief summary that M. Janet adds little in substance to the arguments previously resorted to in favour of design in nature. Though he works out many points with independent reflection, and presents his subject with much freshness of illustration, the real force of the reasoning lies in the contention that a recurring assemblage of complicated conditions converging towards one result involves a pre-representation of that result. We do not intend to argue this question here, though we may congratulate M. Janet on substituting so definite a criterion for the looser methods of ascertaining marks of design. One or two observations on M. Janet's line of reasoning must suffice. We hardly think he will secure the support of men of science in limiting the action of physical or mechanical causation where he does. To say for example that mechanical principles cannot account for the symmetrical arrangement of the lines of a crystal is surely to betray a rather superficial acquaintance with the mechanical mode of explanation. It seems much too soon, in view of Mr. Darwin's reduction of so many adaptations to a strictly mechanical process, to affirm that physical causation is inadequate to account for the orderly arrangements of living structures. We are no doubt still a long way from a mechanical theory of organic growth, but it may be said to be the *quæsitum* of modern science, and no one can say that it is a chimæra. Should it ever be reached, one suspects in spite of M. Janet's assurances, that ideas of final causes will soon wax very faint. For such a theory, while admitting that there is a close relation between organ and function, would be able to furnish another explanation of the relation, and M. Janet's argument that what resembles the result of intelligent volition cannot be due to another cause will hardly convince those who are familiar with the doctrine of the plurality of causes. The author seems to us to argue most weakly when he seeks to assimilate our knowledge of design in nature to that of others' conscious thoughts and volitions. The independent chains of reasoning by which we are able to establish the existence of another

mind, whether in one of our fellowmen or of the lower animals, serve as a mode of mutual verification, and to this there corresponds nothing in the teleological argument.

We will not follow the author into his Second Book, where the several philosophic interpretations of finality are carefully examined and the reasons set forth in favour of a transcendent intelligence rather than an immanent principle, whether conscious or instinctive. It is sufficient to say that the student of philosophy will here find a valuable retrospect of one aspect of philosophic history and not a few pertinent criticisms on the weaker sides of the several theories reviewed.

JAMES SULLY.

VIII.—REPORTS.

Functions of the Cerebrum.—At the end of his first paper on the functions of the cerebrum in dogs, reported on in MIND No. V., Prof. Goltz promised to deal with the psychical effects of his remarkable experiments in another paper. It was not very obvious what results remained to be indicated, after he had so carefully stated not only the effects on sensation and movement, but also the change of emotional demeanour in the subjects of his experiments; and it is therefore hardly surprising that, in the second paper which he has now contributed to Pflüger's *Archiv* (XIV. 8, 9), he does not advance very far beyond the lines of his former communication. He has, however, widened the scope of his research by treating both hemispheres instead of one only, and, while the results thus obtained are generally confirmatory of those before published, they are altogether of the most striking character. He is doubtless, as he supposes, the first observer who has been able to note the *permanent* results of wide-spread destruction in both hemispheres of a highly organised animal, and his method of experiment (washing out by a jet of water, which leaves the great blood-vessels unruptured) needs no other testimony to its scientific value.

As anything like considerable destruction of the cortex of either hemisphere was found to be attended with a permanent reduction of *Touch* (in all its modes) on the other side of the body, so destruction in the two hemispheres is followed by permanently reduced sensibility over the whole frame.

The effect upon *Sight*—partial or total blindness according to the extent of cortical destruction—previously demonstrated in one eye from the opposite hemisphere, is exactly reproduced in the other eye when the remaining hemisphere is in turn affected. In the cases of largest destruction, the blindness remained total for weeks and showed no signs of disappearing. When more limited, the animal would begin after a time to respond to impressions of sight, especially from moving objects; but even when the destruction was very partial, if on both sides, a relative insensibility to light could always be established by special tests, months afterwards—meat, for example, not

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being recognised by its colour when beyond the reach of smell, or even when smelt, not being detected by the eye, if hung in an unusual position (though very close) over the animal's head. Goltz's determinate conclusion, after a most varied series of experiments, is that the permanent effect on vision depends strictly on a loss of natural function of the cortical areas destroyed by the operation; and according to him the areas are in no way circumscribed.

The other special senses—*Hearing, Smell,* and *Taste*—might be expected to be in like manner affected by cortical destruction, though in the first series of experiments—on a single hemisphere—there was no clear evidence of any effect produced, owing to the difficulty or impossibility of stimulating one ear (for example) without the other. The expectation has not been verified. Even when the destruction in the two hemispheres was so great as to leave an animal permanently blind, it would begin to respond to sounds within a few days from the operation—wag the tail when called by name, bark when barked at (even by a human throat, till it found it was being tricked), and cower at the sound of a whip though shaken in vain before its eyes. Smell also appears to be unaffected, though there was a doubt in one or two cases. Taste, which is so hard to separate from smell, has not been sufficiently tried.

As regards *Movements*, the experiments on two hemispheres generally confirm those on one. There is a permanent muscular helplessness of the limbs on each side from the opposite hemisphere, which is either plainly marked with large destruction, or may be made manifest by special tests if the destruction is small. One striking effect is the tendency to take high steps like a cock, especially under excitement. The use of the forepaws for grasping is completely lost. Yet Goltz asserts that the awkward movements after loss in both hemispheres are not less energetic than in the normal state: great enough leaps would be taken to clear high obstacles, but to no purpose because taken only in the vertical direction. It is also remarkable that the muscles of the jaws remain unaffected, bones being crunched as effectively as usual.

Very marked is the change in *general demeanour* when both hemispheres have been treated. The animal has a stolid dazed look, remains still, begins to move slowly, and then moves straight forward like an automaton, not avoiding obstacles. In eating it finds the pieces of food in a dish with difficulty, being apt to bite the dish instead or any indifferent object: one dog had the habit of placing its forepaw on the dish and repeatedly bit it by mistake. The teeth at first work irregularly; yet the tongue always escapes injury, and, even when the destruction extends down to the corpus striatum and optic thalamus on one side, seems to have its movements unaffected.

With the inability to find the food in a dish, there appears also a loss of the *sense of locality* in general. If called from a distance, the animal would get up to come to the place, but wander about without reaching it. Goltz could not suppose that this was due only to loss of vision, when blind dogs get about so easily and surely, and, as in the

subjects of his experiments hearing and smell remain intact, he judged that the fault must lie with the muscular sense and whatever else is involved in the perception of the body as extended in space. He therefore devised experiments for testing the animal's ability to free itself from disagreeable irritation at different parts of the surface of the body, and found that after loss in both hemispheres it could no longer, as before, apply its snout directly to the places affected, but only made more or less indeterminate reflex movements. To his surprise he then found that the power was equally lost for the whole body, *though only one hemisphere was treated.*

[This is certainly a very remarkable fact and seems to show how complex is the integration of sense-impressions and movements in what we call an act of *perception.* The reference of sensation to a definite locality on the extended surface of the body is, of course, very different from a mere passive sense-affection, and, to judge by the experimental evidence, is connected with such an involved nervous process in the convolutions that it is affected by the disturbance of this at any part of the cortical substance in either hemisphere.]

The *sexual appetite* remains after moderate loss in both hemispheres, but vanishes when it is great. Other *emotions* as hate, love, &c., survive considerable destruction. Interesting particulars are given on this head as on others.

Nothing depends more definitely upon the amount of brain-matter than *Memory,* as shown by its decay with progressive destruction of the cortex. Also, when both hemispheres are treated instead of only one, new acquisitions become impossible.

In conclusion, Goltz urges that whatever be the permanent deficiencies of function established by the experiments, no single muscle is lamed and (as before mentioned) the whole amount of muscular energy is not reduced. He has not been too particular in assigning the amount of destruction in each case, because there appeared no difference of result as dependent on particular convolutions: the difference was quantitative only. The parts affected were the upper and lateral surfaces, but these (as mentioned in the first paper) both within and without the 'excitable region' of Hitzig [and Ferrier, to whom Goltz still does not refer]. The corpora striata and optic thalami were liable in cases of large destruction to be affected, and may thus be involved in the resulting phenomena to an extent not yet determined. [This is a point over which Goltz passes much too lightly.] The research, he maintains, is decisive against the older doctrine (of Flourens) that a mere remnant of the hemisphere can do the work of the whole. Nor, as far as it goes, does it lend any confirmation to the newer doctrine that particular regions of the cortex have special functions; for, however symmetrical were the portions of the two hemispheres destroyed, the effects on the opposite sides of the body were always alike, or differed only quantitatively in proportion to the extent of the lesion. The fact that hearing remains intact, after loss of sight, might indeed be taken to imply that there is a special centre for hearing in the basal part of the brain not reached by the opera-

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tion, but till such a spot is positively indicated, Goltz refuses to take up with any such supposition. [The reader need hardly be reminded that Ferrier does assign a special centre for hearing, not however on the basal part of the brain, but on the lateral surface—which Goltz declares may be destroyed in both hemispheres without affecting the auditory sense. More expressly contradictory the results of the two inquirers could not well be on this as on other points.]

Localisation of Function in the Cerebral Cortex.—In a short note reprinted from the *St. Bartholomew Hospital Reports*, vol. xiii, Dr. Ainslie Hollis maintains that in the present state of our knowledge we have only the assurance that there exist in the brain a posterior or retentive system and an anterior or expressive system. The *expressive* system may be said generally to consist of the fronto-parietal convolutions. Of these the parietal convolutions, immediately bounding the great fissure of Rolando, are concerned in the movements of limbs, neck, back, &c.,—that is to say, the *acquired* movements of these parts; for Soltmann and others have found that in the very young, before experience has been acquired, the movements described by Hitzig, &c., as depending on electrisation of these convolutions and no others are not in the same way present. The adjoining frontal convolutions are concerned in the complex symbolic actions of speaking, numbering, writing, &c., as has partly been made out by direct pathological evidence, and partly may be inferred from the greater frontal development in cultured races as compared with savages whose sense-acuteness is not accompanied by the intelligence which involves a highly-developed system of symbolic expressions. What Dr. Ainslie Hollis calls the *retentive* [better, perhaps, the receptive] system consists, he believes, of the posterior or occipito-temporal lobes. He adduces two cases in support of this position. One of these was noted by Dr. Bateman in his essay on Aphasia—that of a gentleman who put vinegar on his food instead of pepper, and said "How bright the poker looks," but adding, when told he meant the fire, "Yes, I mean the fire". Dr. Bateman called this (with some hesitation) a case of anmesic aphasia, supposing that "the idea was conceived but the means of communication with the external world did not exist". But as the autopsy showed that the frontal lobes were perfectly healthy, and only the posterior third of the left hemisphere was diseased, it is rather, Dr. Ainslie Hollis urges, to be supposed that while the power of expression was intact, there was a loss of the power of appreciating or recognising the attributes of objects. His other case is of a letter-sorter who became unable to do his work, first losing, as he declared, the clear mental picture of the position and relation of the openings in his nest of pigeon-holes. Here the disease proved to be tumour in the left temporal lobe. In conclusion the author utters a warning against the attempt to localise in the cortex too closely the several faculties of the mind. "It is preposterous to expect that similar cells are reserved for similar functions in all human brains, knowing what we do of the great diversity in man's mental nature, his various occupations, proclivities, and talents."

The Habits of Ants.—Sir John Lubbock's paper under this title in the *Fortnightly Review* (March, 1877) embodies a number of results obtained by the most careful experimental inquiry, and so to be distinguished from the loose observations on mental life in animals that pass current. His experiments confirm some of the most remarkable assertions that have been made as to the organisation of ant-societies, but on the whole suggest a more sober estimate than is usually taken of the mental capacity of the individual workers.

He finds distinct proof of a differentiation of function among the working members of the communities, not dependent on age or sex. He has satisfied himself that not only are aphides kept for the sake of the sweet fluid they yield but even their eggs are watched over, and, generally, that a great variety of other nest-inmates are entertained for purposes of service. He allows the extreme difference of character in different species, and confirms in particular, as regards one energetic species of slave-makers (*Polyergus rufescens*), the astonishing fact that they rely so much on their captives as to have lost the instinct of feeding and would die but for the care they exact. These and other instances given in the paper of extremely developed function (in the last case turning to weakness) seem to be indubitable facts which must be interpreted as they best may in the light of our other knowledge of animal life.

The specific results of Sir J. Lubbock's original experiments are shortly these. Not the least ingenuity is shown for the saving of time and labour in procuring food: a long roundabout journey continued to be taken when it might have been avoided by the smallest venture across intervening space or the simplest bridge-construction. Still where it was a case of being excluded from food altogether, the ants did succeed in removing a direct artificial obstruction. As to helpfulness, no notice was taken of a friend buried under loose earth, and very rarely was relief afforded to companions in distress (through being smeared with a sticky substance). Hopeless victims of chloroform, at first neglected, were afterwards got rid of by being dropt into water close at hand; but others merely drunk from alchohol were for the most part carried in safety into the nest. These were friends: strangers (from another nest) in the like case were almost all bundled into the water. The distinction otherwise made between friends and strangers was very marked: after months of absence an ant would be re-admitted, if not welcomed back, to its native nest, whereas a stranger would be expelled and be only too glad to make its escape.

As regards the senses, smell was proved to be exceedingly acute. Hearing, if not absent, must be supposed to have a quite different range from ours. Sight, for all the apparent development of eyes, seems to be of little account for the direction of locomotion—certainly plays nothing like the part it does for us in objective perception. Notion of objective direction is absent: they returned always upon their track on a board heedless of its being turned round away from the nest.

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There was no evidence (after very careful experiment) of intercommunication to the effect of describing or indicating localities where food was to be had: when numbers come together to the same place, they must be supposed to follow one another by sight or to be guided by scent. Yet there seemed to be somehow a transmission of the simpler notion that more food was to be found in one of two directions than in the other.

EDITOR.

M. Taine on the Acquisition of Language by Children.—M. Taine contributed to the *Revue Philosophique* No. 1. (January 1876) a remarkable series of observations on the development of language in a young child, which are here made accessible by translation to English readers. Such a record has been too rarely attempted, and the psychological value of this one is very evident.

"The following observations were made from time to time and written down on the spot. The subject of them was a little girl whose development was ordinary, neither precocious nor slow.

From the first hour, probably by reflex action, she cried incessantly, kicked about and moved all her limbs and perhaps all her muscles. In the first week, no doubt also by reflex action, she moved her fingers and even grasped for some time one's fore-finger when given her. About the third month she begins to feel with her hands and to stretch out her arms, but she cannot yet direct her hand, she touches and moves at random; she tries the movements of her arms and the tactile and muscular sensations which follow from them; nothing more. In my opinion it is out of this enormous number of movements, constantly essayed, that there will be evolved by gradual selection the intentional movements having an object and attaining it. In the last fortnight (at two and a half months) I make sure of one that is evidently acquired; hearing her grandmother's voice she turns her head to the side from which it comes.

There is the same spontaneous apprenticeship for cries as for movements. The progress of the vocal organ goes on just like that of the limbs; the child learns to emit such or such a sound as it learns to turn its head or its eyes, that is to say by gropings and constant attempts.

At about three and a half months, in the country, she was put on a carpet in the garden; there lying on her back or stomach, for hours together, she kept moving about her four limbs and uttering a number of cries and different exclamations, but vowels only, no consonants; this continued for several months.

By degrees consonants were added to the vowels and the exclamations became more and more articulate. It all ended in a sort of very distinct twittering, which would last a quarter of an hour at a time and be repeated ten times a day. The sounds (both vowels and consonants), at first very vague and difficult to catch, approached more and more nearly to those that we pronounce, and the series of simple cries came almost to resemble a foreign language that we could not understand. She takes delight in her twitter like a bird, she seems to smile with joy over it, but as yet it is only the twittering of a bird, for she attaches no meaning to the sounds she utters. She has learned only the materials of language. (Twelve months.)

She has acquired the greater part quite by herself, the rest thanks to the help of others and by imitation. She first made the sound *mm*

spontaneously by blowing noisily with closed lips. This amused her and was a discovery to her. In the same way she made another sound, *kraaau*, pronounced from the throat in deep gutturals; this was her own invention, accidental and fleeting. The two noises were repeated before her several times; she listened attentively and then came to make them immediately she heard them. In the same way with the sound *papapapa*, which she said several times by chance and of her own accord, which was then repeated to her a hundred times to fix it in her memory, and which in the end she said voluntarily, with a sure and easy execution, (always without understanding its meaning) as if it were a mere sound that she liked to make. In short, example and education were only of use in calling her attention to the sounds that she had already found out for herself, in calling forth their repetition and perfection, in directing her preference to them and in making them emerge and survive amid the crowd of similar sounds. But all initiative belongs to her. The same is true of her gestures. For many months she has spontaneously attempted all kinds of movements of the arms, the bending of the hand over the wrist, the bringing together of the hands, &c. Then after being shown the way and with repeated trials she has learned to clap her hands to the sound *bravo*, and to turn her open hands regularly to the strain *au bois Joliette*, &c. Example, instruction and education are only directing channels; the source is higher.

To be sure of this it is enough to listen for a while to her twitter. Its flexibility is surprising; I am persuaded that all the shades of emotion, wonder, joy, wilfulness and sadness are expressed by differences of tone; in this she equals or even surpasses a grown up person. If I compare her to animals, even to those most gifted in this respect (dog, parrot, singing-birds), I find that with a less extended gamut of sounds she far surpasses them in the delicacy and abundance of her expressive intonations. Delicacy of impressions and delicacy of expressions are in fact the distinctive characteristic of man among animals and, as I have shown (*De l'Intelligence* I. b. i.), are the source in him of language and of general ideas; he is among them what a great and fine poet, Heine or Shakespeare, would be among workmen and peasants; in a word, man is sensible of innumerable shades, or rather of a whole order of shades which escape them. The same thing is seen besides in the kind and degree of his curiosity. Any one may observe that from the fifth or sixth month children employ their whole time for two years and more in making physical experiments. No animal, not even the cat or dog, makes this constant study of all bodies within its reach; all day long the child of whom I speak (at twelve months) touches, feels, turns round, lets drop, tastes and experiments upon everything she gets hold of; whatever it may be, ball, doll, coral, or plaything, when once it is sufficiently known she throws it aside, it is no longer new, she has nothing to learn from it and has no further interest in it. It is pure curiosity; physical need, greediness, count for nothing in the case; it seems as if already in her little brain every group of perceptions was tending to complete itself, as in that of a child who makes use of language.

As yet she attaches no meaning to any word she utters, but there are two or three words to which she attaches meaning when she hears them. She sees her grandfather every day, and a chalk portrait of him, much smaller than life but a very good likeness, has been often shown her. From about ten months when asked "Where is grandfather?" she turns to this portrait and laughs. Before the portrait of her grandmother, not so good a likeness, she makes no such gesture and gives no sign of

intelligence. From eleven months when asked "Where is mama?" she turns towards her mother, and she does the same for her father. I should not venture to say that these three actions surpass the intelligence of animals. A little dog here understands as well when it hears the word *sugar*; it comes from the other end of the garden to get a bit. There is nothing more in this than an association, for the dog between a sound and some sensation of taste, for the child between a sound and the form of an individual face perceived; the object denoted by the sound has not as yet a general character. However I believe that the step was made at twelve months; here is a fact decisive in my opinion. This winter she was carried every day to her grandmother's, who often showed her a painted copy of a picture by Luini of the infant Jesus naked, saying at the same time "There's *bébé*". A week ago in another room when she was asked "Where's *bébé*" meaning herself, she turned at once to the pictures and engravings that happened to be there. *Bélé* has then a general signification for her, namely whatever she thinks is common to all pictures and engravings of figures and landscapes, that is to say, if I am not mistaken, *something variegated in a shining frame*. In fact it is clear that the objects painted or drawn in the frame are as Greek to her; on the other hand, the bright square inclosing any representation must have struck her. This is her first general word. The meaning that she gives it is not what we give it, but it is only the better fitted for showing the original work of infantile intelligence. For if we supplied the word, we did not supply the meaning; the general character which we wished to make the child catch is not that which she has chosen. She has caught another suited to her mental state for which we have no precise word.

Fourteen months and three weeks. The acquisitions of the last six weeks have been considerable; she understands several other words besides *bébé*, and there are five or six that she uses attaching meaning to them. To the simple warbling which was nothing but a succession of vocal gestures, the beginnings of intentional and determinate language have succeeded. The principal words she at present utters are *papa*, *mama*, *tété* (nurse), *oua-oua* (dog), *koko* (chicken) *dada* (horse or carriage), *mia* (puss, cat), *kaka* and *tem*; the two first were *papa* and *tem*, this last word very curious and worth the attention of the observer.

Papa was pronounced for more than a fortnight unintentionally and without meaning, as a mere twitter, an easy and amusing articulation. It was later that the association between the word and the image or perception of the object was fixed, that the image or perception of her father called to her lips the sound *papa*, that the word uttered by another definitely and regularly called up in her the remembrance, image, expectation of and search for her father. There was an insensible transition from the one state to the other, which it is difficult to unravel. The first state still returns at certain times though the second is established; she still sometimes plays with the sound though she understands its meaning. This is easily seen in her later words, for instance in the word *kaka*. To the great displeasure of her mother she still often repeats this ten times in succession, without purpose or meaning, as an interesting vocal gesture and to exercise a new faculty; but she often also says it with a purpose when there is occasion. Further it is plain that she has changed or enlarged its meaning as with the word *hélé*; for instance yesterday in the garden seeing two little wet places left by the watering-pot on the gravel she said her word with an evident meaning; she meant by it *whatever wets*.

She makes imitative sounds with great ease. She has seen and heard

chickens and repeats *koko* much more exactly than we can do, with the guttural intonation of the creatures themselves. This is only a faculty of the throat; there is another much more striking, which is the specially human gift and which shows itself in twenty ways, I mean the aptitude for seizing analogies—the source of general ideas and of language. She was shown birds two inches long, painted red and blue on the walls of a room, and was told once "There are *kokos*". She was at once sensible of the resemblance and for half a day her great pleasure was to be carried along the walls of the room crying out *koko!* with joy at each fresh bird. No dog or parrot would have done as much; in my opinion we come here upon the essence of language. Other analogies are seized with the same ease. She was in the habit of seeing a little black dog belonging to the house which often barks, and it was to it that she first learnt to apply the word *oua-oua*. Very quickly and with very little help she applied it to dogs of all shapes and kinds that she saw in the streets and then, what is still more remarkable, to the bronze dogs near the staircase. Better still, the day before yesterday when she saw a goat a month old that bleated, she said *oua-oua*, calling it by the name of the dog which is most like it in form and not by that of the horse which is too big or of the cat which has quite a different gait.* This is the distinctive trait of man; two successive impressions, though very unlike, yet leave a common residue which is a distinct impression, solicitation, impulse, of which the final effect is some expression invented or suggested, that is to say, some gesture, cry, articulation, name.

I now come to the word *tem*, one of the most remarkable and one of the first she uttered. All the others were probably attributives† and those who heard them had no difficulty in understanding them; this is probably a demonstrative word; and as there was no other into which it could be translated, it took several weeks to make out its meaning.

At first and for more than a fortnight the child uttered the word *tem* as she did the word *papa* without giving it a precise meaning, like a simple twitter. She made a dental articulation ending with a labial articulation and was amused by it. Little by little she associated this word with a distinct intention; it now signifies for her *give*, *take*, *look*; in fact, she says it very decidedly several times together in an urgent fashion, sometimes that she may have some new object that she sees, sometimes to get us to take it, sometimes to draw attention to herself. All these meanings are mixed up in the word *tem*. Perhaps it comes from the word *tiens* that is often used to her and with something of the same meaning. But it seems to me rather a word that she has created spontaneously, a sympathetic articulation that she herself has found in harmony with all fixed and distinct intention, and which consequently is associated with her principal fixed and distinct intentions, which at present are desires to take, to have, to make others take, to look, to make others look. In this case it is a *natural vocal gesture*, not learned, and at the same time imperative and demonstrative, since it expresses both command and the presence of the object to which the command refers; the dental *t* and the labial *m* united in a short, dry, and quickly stifled sound, correspond very well, without convention and by their

* "When the Romans first saw elephants they called them Lucanian oxen. In the same way savage tribes have called horses on seeing them for the first time 'large pigs'." (*Lectures on Mr. Darwin's Philosophy of Language* by Max Müller, p. 48 (1873).

† Max Müller, *Lectures on the Science of Language*, 6th edition. Vol. I. p. 309, 6th ed. The roots of a language are 400 or 500 in number, and are divided into two groups, the attributive and the demonstrative.

nature alone, to this start of attention, to this sharp and decided outbreak of volition. This origin is the more probable that other and later words, of which we shall presently speak, are evidently the work, not of imitation but of invention.*

From the 15th to the 17th month. Great progress. She has learnt to walk and even to run, and is firm on her little legs. We see her gaining ideas every day and she understands many phrases, for instance: "bring the ball," "come on papa's knee," "go down," "come here," &c. She begins to distinguish the tone of displeasure from that of satisfaction, and leaves off doing what is forbidden her with a grave face and voice; she often wants to be kissed, holding up her face and saying in a coaxing voice *papa* or *mama*—but she has learnt or invented very few new words. The chief are *Pa* (Paul), *Babert* (Gilbert), *bébé* (baby), *béé́é* (goat), *cola* (chocolate), *oua-oua* (anything good to eat), *ham* (eat, I want to eat). There are a good many others that she understands but cannot say, for instance *grand-père* and *grand-mère*, her vocal organs having been too little exercised to produce all the sounds that she knows, and to which she attaches meaning.

Cola (chocolate) is one of the first sweetmeats that was given her and it is the one she likes best. She went every day to her grandmother's who would give her a lozenge. She knows the box very well and keeps on pointing to it to have it opened. Of herself and without or rather in spite of us she has extended the meaning of the word and applies it now to anything sweet; she says *cola* when sugar, tart, a grape, a peach, or a fig is given her.† We have already had several examples of this spontaneous generalisation; it was easy in this instance, for the tastes of chocolate, of the grape, of the peach, &c., agree in this, that being all pleasant they provoke the same desire, that of experiencing once more the agreeable sensation. So distinct a desire or impulse easily leads to a movement of the head, a gesture of the hand, an expression, and consequently to a word.

Bébé. We have seen the strange signification that she at first gave to this word; little by little she came nearer to the usual meaning. Other children were pointed out to her as *bébés*, and she was herself called by the name and now answers to it. Further, when put down before a very low mirror and shown her face reflected in it, she was told "that's *bébé*," and she now goes alone to the mirror and says *bébé*, laughing when she sees herself. Starting from this she has extended the meaning of the word, and calls *bébés* all little figures, for instance, some half-size plaster statues which are on the staircase, and the figures of men and women in small pictures and prints. Once more, education produced an unexpected effect on her; the general character grasped by the child is not that which we intended; we taught her the sound, she has invented the sense.

Ham (eat, I want to eat). Here both sound and sense were invented. The sound was first heard in her fourteenth month. For several weeks I thought it no more than one of her warblings, but at last I found

* A neighbour's little boy had at twenty months a vocabulary of seven words, and among them the word *ça y est*, somewhat analogous to *tem*, and like it untranslateable into our language, for he used it to say *there, I have it, it's done, he has come*, and meant by it the completion of any action or effect.

† In the same way the above-mentioned little boy of twenty months used the word *téterre (pomme de terre)* to designate potatoes, meat, beans, almost everything good to eat except milk, which he called *lolo*. Perhaps to him *téterre* meant everything solid or half solid that is good to eat.

that it was always produced without fail in presence of food. The child now never omits to make it when she is hungry or thirsty, all the more that she sees that we understand it, and that by this articulation she gets something to eat or drink. On listening attentively and attempting to reproduce it, we perceive that it is the *natural vocal gesture* of a person snapping up anything; it begins with a guttural aspirate like a bark, and ends with the closing of the lips as if food were seized and swallowed. A man among savages would do just the same, if with tied hands and solely dependent for expression upon his vocal organs he wished to say that he wanted food. Little by little the intensity and peculiarity of the original pronunciation were lessened; we had repeated her word but in a milder form; consequently she left off making so much of the guttural and labial parts, and the intermediate vowel came to the front; instead of *Hamm* she says *am*, and now we generally use the word as she does. Originality and invention are so strong in a child that if it learns our language from us, we learn its from the child.

Oua-oua. It is only for the last three weeks (the end of her sixteenth month), that she has used this word in the sense of something good to eat. It was some time before we understood it, for she has long used it and still uses it besides in the sense of dog. A barking in the street never fails to call forth this word in the sense of dog, uttered with the lively joy of a discovery. In the new sense the sound has oscillated between *va-va* and *oua-oua*. Very likely the sound that I write *oua-oua* is double to her according to the double meaning she attaches to it, but my ear cannot catch the difference; the senses of children, much less blunted than ours, perceive delicate shades that we no longer distinguish. In any case, on seeing at table a dish she wishes for, she says *oua-oua* several times in succession, and she uses the same word when, having eaten some of it, she wishes for more, but it is always in presence of a dish and to point out something eatable. By this the word is distinguished from *am* which she only uses to make known her want of food, without specifying any particular thing. Thus, when in the garden she hears the dinner-bell she says *am* and not *oua-oua;* on the other hand, at table before a cutlet she says *oua-oua* much oftener than *am*.

For the last two months, on the other hand, she has left off using the word *tem* (give, take, look) of which I spoke above, and I do not think she has replaced it by another. This is no doubt because we did not choose to learn it, for it did not correspond to any one of our ideas, but combined three that are quite distinct; we did not use it with her and therefore she left off using it herself.

On summing up the facts I have just related we arrive at the following conclusions, which observers should test by observations made on other children.

At first a child cries and uses its vocal organ, in the same way as its limbs, spontaneously and by reflex action. Spontaneously and from mere pleasure of action it then uses its vocal organ in the same way as its limbs, and acquires the complete use of it by trial and error. From inarticulate it thus passes to articulate sounds. The variety of intonations that it acquires shows in it a superior delicacy of impression and expression. By this delicacy it is capable of general ideas. We only help it to catch them by the suggestion of our words. It attaches to them ideas that we do not expect and spontaneously generalises outside and beyond our *cadres*. At times it invents not only the meaning of the word, but the word itself. Several vocabularies may succeed one another in its mind by the obliteration of old words, replaced by new

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ones. Many meanings may be given in succession to the same word which remains unchanged. Many of the words invented are natural vocal gestures. In short, it learns a ready-made language as a true musician learns counterpoint or a true poet prosody; it is an original genius adapting itself to a form constructed bit by bit by a succession of original geniuses; if language were wanting, the child would recover it little by little or would discover an equivalent.

These observations were interrupted by the calamities of the year 1870. The following notes may help to determine the mental state of a child; in many respects it is that of primitive peoples at the poetical and mythological stage. A jet of water, that the child saw under the windows for three months, threw her every day into new transports of joy, as did also the river under a bridge; it was evident that sparkling running water seemed to her to be of extraordinary beauty. "*L'eau, l'eau!*" she goes on exclaiming (twenty months). A little later (two and a half years) she was very much struck by the sight of the moon. She wanted to see it every evening; when she saw it through the window-panes there were cries of joy; when she walked it seemed to her that it walked too, and this discovery charmed her. As the moon according to the hour appeared in different places, now in front of the house now behind it, she cried out "Another moon, another moon!" One evening (three years) on inquiring for the moon and being told that it had set *(que'elle est allée se coucher)* she replies "But where's the moon's *bonne?*" All this closely resembles the emotions and conjectures of primitive peoples, their lively and deep admiration for great natural objects, the power that analogy, language and metaphor exercise over them, leading them to solar and lunar myths, &c. If we admit that such a state of mind was universal at any time, we could at once divine the worship and legends that would be formed. They would be those of the *Vedas*, of the *Edda* and even of Homer.

If we speak to her of an object at a little distance but that she can clearly represent to herself from having seen either it or others like it, her first question always is "What does it say?"—"What does the rabbit say?"—What does the bird say?"—"What does the horse say?"—"What does the big tree say?" Animal or tree, she immediately treats it as a person and wants to know its thoughts and words; that is what she cares about; by a spontaneous induction she imagines it like herself, like us; she humanises it. This disposition is found among primitive peoples, the more strong the more primitive they are; in the *Edda*, especially in the *Mabinogion*, animals have also the gift of speech; the eagle, the stag and the salmon are old and experienced sages, who remember bygone events and instruct man.*

It takes much time and many steps for a child to arrive at ideas which to us seem simple. When her dolls had their heads broken she was told that they were dead. One day her grandmother said to her, "I am old, I shall not be always with you, I shall die". "Then shall you have your head broken?" She repeated this idea several times and still (three years and a month) with her 'to be dead' is to have the head broken. The day before yesterday a magpie killed by the gardener was hung by one foot at the end of a stick, like a fan; she was told that the magpie was dead and she wished to see it. "What is the magpie doing?" "It is doing nothing, it can't move, it is dead." "Ah!" For the first time the idea of final immobility entered her head. Suppose a people to stop short at this idea and not to define death otherwise; the other world would be to it the *scheol* of the Hebrews, the place where

* Similarly she says, "My carriage *won't* go, it is *naughty*".

the immoveable dead live a vague, almost extinct life. *Yesterday* means to her *in the past*, and *to-morrow—in the future*, neither of these words denoting to her mind a precise day in relation to to-day, either preceding or following it. This is another example of too extended a meaning, which must be narrowed. There is hardly a word used by children which has not to undergo this operation. Like primitive peoples they are inclined to general and wide ideas; linguists tell us that such is the character of roots and consequently of the first conceptions as they are found in the most ancient documents, especially in the *Rig-Veda*.

Speaking generally, the child presents in a passing state the mental characteristics that are found in a fixed state in primitive civilisations, very much as the human embryo presents in a passing state the physical characteristics that are found in a fixed state in the classes of inferior animals."

IX.—NOTES.

The Meaning of 'Existence' and Descartes' 'Cogito'.—In dealing with very difficult abstractions, logicians inculcate the practice of resolving them into the corresponding particulars. The prescription is well put by Samuel Bailey thus:—

"If the student of philosophy would always, or at least in cases of importance, adopt the rule of throwing the abstract language in which it is so frequently couched into a concrete form, he would find it a powerful aid in dealing with the obscurities and perplexities of metaphysical speculation. He would then see clearly the character of the immense mass of nothings which constitute what passes for philosophy."

Certain abstractions are difficult to handle from their complexity; such is 'Life'. The rule to refer to the particular things is especially called for in this case. Less complex is the notion of 'Force'; still the particulars are so different in their nature, that we must be sure to represent all the classes—mechanical or molar forces, molecular forces, and the forces of voluntary agents. The danger here is that we coin an abstraction distinct from matter altogether, like Plato's 'Ideas' and Aristotle's 'Form'.

If any abstract notion stands in need of all the aids that logic can supply, it is 'Existence'. Try it then by the method of particulars. What are the things that are said to exist? There is no difficulty in finding such things; stars, seas, mountains, minerals, plants, human beings, kingdoms, cities, commerce,—exist. It is not for want of particulars, therefore, that we are in any doubts about the meaning of 'Existence'; it is rather for the opposite reason—we have too many particulars. In fact, the word 'exist' means everything, excludes nothing. In all other notions, there is a division of the universe into objects possessing the attribute, and objects devoid of it; 'Life' both includes and excludes. But 'Existence' is the entire Universe—extended and unextended, matter and mind. Is there not a risk that when you mean everything, you mean nothing?

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I have maintained (*Deductive Logic*, p. 59) that 'Existence' is an unreal notion, for the very reason that it has no real negative. According to the Law of Universal Relativity, the *summa genera* of things must be at least two: say mind and not-mind, subject and object. We may in form put the two into one sum, and give it a name 'Existence,' but we cannot thereby construct a new meaning. There still remain the two distinct genera, in mutual contrast.

On this ground, I argued (p. 107) against Mill's including 'Existence' among the Universal Predicates, in the final Import of Propositions. My purpose requires me to quote the passage:—

"With regard to the predicate EXISTENCE, occurring in certain propositions, we may remark that no science, or department of logical method springs out of it. Indeed, all such propositions are more or less abbreviated, or elliptical; when fully expressed they fall under either co-existence or succession. When we say, There *exists* a conspiracy for a particular purpose, we mean that, at the present time, a body of men have formed themselves into a society for a particular object; which is a complex affirmation resolvable into propositions of co-existence and of succession (as causation). The assertion that the dodo does not exist, points to the fact that this animal, once known in a certain place, has disappeared or become extinct; is no longer associated with the locality: all which may be better stated without the use of the verb 'exist'. There is a debated question—Does an Ether exist? but the correcter form would be this—Are heat and light and other radiant influences propagated by an ethereal medium diffused in space? which is a proposition of causation. In like manner the question of the Existence of a Deity cannot be discussed in that form. It is properly a question as to the First Cause of the Universe, and as to the continued exertion of that Cause in providential superintendence."

Fortunately, Mill has furnished us with his reply in the latest edition of his *Logic*, Vol. I., p. 113, n., as follows:—

"I accept fully Mr. Bain's Law of Relativity, but I do not understand by it that, to enable us to apprehend or be conscious of any fact, it is necessary that we should contrast it with some other positive fact. The antithesis necessary to consciousness need not, I conceive, be an antithesis between two positives; it may be between one positive and its negative. Hobbes was undoubtedly right when he said that a single sensation indefinitely prolonged would cease to be felt at all; but simple intermission, without other change, would restore it to consciousness. In order to be conscious of heat, it is not necessary that we should pass to it from a state of no sensation, or from a sensation of some other kind. The relative opposite of Being, considered as a *summum genus*, is Non-entity, or Nothing; and we have, now and then, occasion to consider and discuss things merely in contrast with Non-entity.

"I grant that the *decision* of questions of Existence usually if not always depends on a previous question of either Causation or Co-existence. But Existence is nevertheless a different thing from Causation or Co-existence, and can be predicated apart from them. The meaning of the abstract name of Existence, and the connotation of the concrete name Being, consist, like the meaning of all other names, in sensations or states of consciousness: their peculiarity is that to exist, is to excite, or be capable of exciting, *any* sensations or states of consciousness: no matter what, but it is indispensable that there should be some. It was from overlooking this that Hegel, finding that Being is

an abstraction reached by thinking away all particular attributes, arrived at the self-contradictory proposition on which he founded all his philosophy, that Being is the same as Nothing. It is really the name of Something, taken in the most comprehensive sense of the word."

The contention here is that the Law of Relativity is sufficiently complied with, through the alternative notion expressed by Non-entity, or Nothing. From this I must still dissent. But I am more concerned at present with Mill's account of the positive meaning of the term, namely, whatever excites in us "any sensations or states of consciousness, no matter what". In other words, when we cannot say of anything that it is either Object or Subject, but still treat it as a reality, we may use the supra-relative terms, 'existence,' 'thing,' 'being'. Now I grant that the occasion may arise for stating a thing in this uncertain fashion; and that a word may be suitably employed for that purpose. But this is different from stating a property common to Object and Subject, and coining a higher genus including both, in the same way that Object includes, as sub-genera, Matter and Space. I regard 'Existence' employed in this way, as having no separate or original meaning; it is merely a short synonym for a complex alternative given in terms of the two highest genera that possess reality—Object and Subject. I contend, in short, that for the meaning of 'Existence,' we need always to refer to some of the other attributes of things; that, as an independent attribute, it is devoid of all real standing.

There must be a certain convenience in the term, otherwise it would not be so often employed in everyday life. I can only repeat my view, that it is an *elliptical* term; it expresses shortly and yet sufficiently, what many words might be needed to express fully. When we ask, Does such a thing exist? we imply a definite set of conditions of time, place, and circumstance. Does there *exist* a cure for hydrophobia? means when fully stated—Will any substance or application, known or accessible to us, cure hydrophobia? There is no meaning specific to the word 'Existence'; what it signifies is already amply expressed in other forms.

To come to the greatest example of all—Being or Existence, as applied to the Deity. Theologians habitually employ the couple—Being and Attributes of God. This seems all very natural. We have first to ask whether there be a God, and, that decided in the affirmative, we next inquire what are His Attributes. On the surface, nothing could be more plausible than this arrangement. It lays down 'Being' or 'Existence' as a fact by itself, apart from every Attribute whatsoever. The natural theologian must substantiate Existence before he venture on any inquiry as to Eternity, Infinity, Wisdom, Power, Goodness. Let us, however, look a little below the surface. After putting forward 'Being' as the thesis, how does the Theologian proceed to establish it? There is a singular uniformity of procedure on the point, so that there is no need to make many references. I will take, as a representative, one of the acutest minds that ever discussed this or any other theological thesis—Thomas Brown. The

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habit is to preface the arguments for 'Being' with a re-statement of the position in expanded phraseology: thus says Brown, the proof of the Existence is the proof of "a Creator and Preserver of the Universe". In short, the real inquiry is, how did the Universe commence, and how is it maintained and controlled? More familiarly, it is stated as the question of a First Cause.

If we were to be hypercritical, we might say that the division by theologians into 'Being' and 'Attributes' is faulty, in respect that 'Being' really means two of the 'Attributes'—Creative Agency and Providential Control—these two implying a good deal more, namely, duration in the past (not inaptly called Infinite), extent of agency over space, likewise so vast as to admit the same epithet, together with power and wisdom, on a par with the work involved. We might undoubtedly reserve the *moral* Attributes for a second head; but the first head 'Being' inevitably contains all those now named. Thus, supposing the words 'Being,' 'Existence,' were entirely discarded, there would be nothing lost. The line of argument would be exactly what we now find it. To recur to Brown's treatment. He, as we might expect, scouts the figment of language—'Necessary Existence'; and proceeds, upon the usual argument from Design, to show that the Universe originated with a Mind. This is the real position concealed under the title 'Existence'. Brown's second branch—the 'Attributes'—comprises Unity, Wisdom, Power, Goodness. The proof of these is pretty much a repetition, or at all events, an extension and exhaustion of the argument from Design. If we establish a Mind as the First Cause, we must ascribe to that Mind an amount and character of efficiency comparable to the effect, which is all that is meant by the Attributes.

Dugald Stewart introduces natural theology with the question—"Whence am I, whence the tribes of plants and animals, whence the beautiful fabric of this Universe?" He then uses as a convenient abbreviation—"proof of the existence of the Deity"; otherwise, "the existence of an intelligent and powerful cause from the works of creation". So it always is. We may state the question as 'Being' or 'Existence,' but we must prove it as *Cause and Effect*. Here is another variety of wording—"There is a Divine Being, whose essence is love, grace, and mercy". The expression "Divine Being" is a short summary of all the natural attributes, and the intention of the speaker is to join with these the moral attributes. There is no such thing as Existence in the abstract.

I do not mean to discuss Descartes' mode of establishing Theism, but I may refer to his handling of the question to show that by the existence of God he means the First Cause of the world. "By the name God, I understand a substance infinite, independent, all-knowing, all-powerful, and by which myself and all other things were created." The proof is still a proof from Causation, and the idea has no other significance.

I come now to the formula—'*Cogito, ergo sum*'. Mr. Matthew Arnold's criticism of this formula is expended on the '*sum*'. He is

unable to assign any distinct meaning to 'Being' or 'Existence'; and therefore professes himself unable to comprehend the demonstrations given by theologians in general of the existence of God. Partly in earnest, and partly in his inimitable banter, he goes after the etymology of the word 'be,' and the other synonyms. Sometimes, indeed, a reference to the origin of an obscure word throws a light upon the present meaning; the connection of 'just' with 'ordered' has a certain significance. But the great metaphysical abstractions are expressed by terms whose origin only reveals a metaphor. That 'be' signifies to 'breathe' really teaches nothing at all; we could not substitute 'breathing' for 'being'. Mr. Arnold knows well enough that etymology is not likely to solve any serious problem. His more direct course would have been to ask what other things, besides God, 'Being' or 'Existence' is applied to. Present use is the only criterion of meaning. If he had followed this inquiry, he would have encountered the real difficulty, namely, that the word means anything and everything.

How then shall we deal with 'I think, therefore, I exist'? Is 'exist' here elliptical, and, if so, what is the full expression? One would like to have had some various wording of the inference, that would answer the same purpose as the equivalents of the 'Existence' of the Deity. But we have no such help in the present instance. If 'exist' meant to 'live' as opposed to 'death,' the argument would have some meaning, but that is not intended. We may, however, fall back upon Mill's equivalent term—'Something'. It would then be—'I think, therefore, I am something'. I have already admitted that 'Existence' would have meaning in the form of an alternative—either Subject or Object, we do not say which: there being no reality but what is one or other. This is an equivalent of 'something'. The form would then be—'I think, therefore, I am either Subject or Object'. A worse than an undecided inference; for whoever knows the meaning of the word 'think' must know that it is a mental quality; and to throw the question open, whether it be mind or not-mind, is not to go forward, but to go backward; not to extend our knowledge, but to contract it.

The assertion 'I think' would seem, therefore, to entitle us to say at least, 'I am mind'; 'I am not the opposite of mind,' 'I am a definite or precise something,' which is much better for me than being an indefinite or alternative something. To be sure, the inference is unreal; the meaning of 'think' contains the meaning of 'mind,' if we know what thinking is, that is, if we are using the word with a consciousness of meaning. A real inference might be constructed thus: 'I think, therefore I feel, and also will'; experience shows that these three facts are always associated; the association receiving the name 'Mind'.

Another real inference is 'I think, therefore I am not brute matter'; also the fruit of our experience of the kind of organisation that thinking is allied with. But the proposition 'I think' may itself be subjected to analysis and criticism, which will illustrate

farther the illogical character of the whole transaction. Let us separate the proposition into its two parts—subject and predicate; let us inquire what is the precise meaning of the subject, and what of the predicate: we then discover whether it is a real proposition, whether the predicate *adds* anything to the subject. What is 'I'? The answer must be, all that is included in the terms 'man' or 'human being'—all the parts and functions of body and mind that go to make up an individual man or woman. Consequently to say 'I think' is mere redundancy; whoever understands 'I' already knows that much; it is only repeating a part of the meaning of the subject of the proposition. In short, it is a mere verbal or analytic proposition; it may serve a purpose, but that purpose is not to found an inference.

On the whole, as to the '*Cogito, ergo sum*,' I am of opinion that we should cease endeavouring to extract sunbeams from that cucumber.

A. Bain.

The Logic of "If."—I have lately come across a passage in *Clarissa Harlowe* where Richardson indicates with great clearness a distinction which has long seemed to me to be overlooked by logicians in their treatment of Hypothetical Syllogism. It is in the admirable scene where Morden and Lovelace are first brought together and runs thus:—Morden. "But *if* you have the value for my cousin that you say you have, you must needs think"— Lovelace, "You must allow me, sir, to interrupt you. *If* I have the value I *say* I have. I hope, sir, when I *say* I have that value, there is no cause for that *if*, as you pronounced it with an emphasis." Morden. "Had you heard me out, Mr. Lovelace, you would have found that my *if* was rather an *if* of inference than of doubt."

The question has been much debated among logicians whether the so-called Hypothetical Syllogism of this type

If A is B, C is D
But A is B
∴ C is D

is a *mediate* inference like the common Categorical Syllogism, or whether the conclusion is not *immediately* drawn from the one premiss 'If A is B, C is D'. Prof. Bain, for example, (*Logic* I. p. 116), would deny that the reasoning is mediate, and the reader may consult his work for a short summary of the different arguments urged by Mansel and other distinguished logicians on the same side of the question. Some of the arguments, indeed, are too plainly defective, as when Mansel declares that in the Hypothetical Syllogism "the minor (A is B) and the conclusion (C is D) indifferently change places and each of them is merely one of the two members constituting the major"—which is not the case in Categorical Syllogism. Here he commits a very great blunder, since it is notorious that 'A is B' cannot be got as a conclusion with 'C is D' as second premiss. However the whole weight of authority in favour of the inference being *immediate* is undoubtedly great, and if one takes the other view, some

explanation must be found for the strong array of opinion that may be cited against it.

It seems obvious enough that when the proposition 'If A is B, C is D' is uttered as a pure hypothesis—the *if*, as Richardson expresses it, being one of *doubt*—it is not possible to pass directly to the assertion that 'C *is* D'. This can be reached only through the other assertion 'A *is* B'; and what is the reasoning then but *mediate?* If the conclusion, which is quite a different proposition from the original datum, is here not mediately reached, there is no such thing as mediate reasoning in categoricals. Whatever meaning there is in saying that given 'M is P,' we arrive at the different proposition 'S is P' only mediately—through 'S is M,' there is as much meaning in saying the like of 'C is D' obtained as a positive assertion from the supposition 'If A is B, C is D' only *through* the positive assertion 'A is B'. For that matter, the categorical major 'M is P' can itself be expressed as a hypothetical 'If M, then P'; then follows in the minor an assertion of M (namely S); whence as the conclusion an assertion of P. The only *immediate* inferences that can be drawn from the purely hypothetical proposition 'If A is B, C is D' must themselves be hypothetical. These namely follow: 'If C is not D, A is not B,' 'In some case (at least once) where C is D, A is B'—the logical contrapositive and converse respectively of the original. But these are utterly unlike the conclusion 'C *is* D' got from the same hypothesis *through* the assertion 'A *is* B'.

With what reason, then, can it in any case be maintained that 'C is D' is *immediately* got from 'If A is B, C is D'? With very good reason, when *if*, instead of meaning *suppose that*, is used for *since, seeing that*, or *because*. It is plain that the original proposition may be thus understood: 'Since A is B, C is D'. Or take a material case. 'If it rains, the street is wet,' interpreted strictly as a bare supposition, can never of itself lead to the categorical assertion 'The street *is* wet' (as a matter of fact): it only involves immediately such other suppositions as these—'If the street is not wet, it does not rain, 'If the street is wet, it may be from rain'. But the same expression is also used on a very different occasion: 'It rains (do you say?), why then of course the street is wet,' 'To be sure the street is wet, for does it not rain'? 'No doubt, as it rains, the street is wet'. Here we know *immediately* that 'the street is wet' (or C is D), for this is the assertion in the proposition; and the *If*-clause is not proposed as a possible ground for a conclusion, but is stated shortly as the actual reason of a fact. When expanded, it corresponds not to the first premiss of the Hypothetical Syllogism, but to the *two* premisses together. That is to say, if the clause is regarded as containing a supposition at all, it contains, besides the formal supposition 'If A is B, C is D,' the positive assurance 'A is B'. Of course from the two premisses thus *taken together*, the conclusion 'C is D' follows at once or immediately; but the same is true of the conclusion of a Categorical Syllogism as following from its *two* premisses. Now, when *if* thus covers an assertion of fact within a supposition, it may be called, as by Richardson, an *if*

of inference, as containing the whole reasoned ground of the last clause in the sentence. But such a sentence is no longer the 'hypothetical proposition' of logic—that kind of thought-utterance which, though it has a different form, is as simple as the simplest categorical proposition, seeing (as before suggested) there is no categorical proposition which may not be expressed as a hypothetical, and *vice versâ*.

The true and simple sense of *If* in the antecedent part of a purely hypothetical proposition may be otherwise brought out by considering its analogy with the subject in a categorical. Take a proposition in Euclid. It is exactly the same whether we say, 'The angles at the base of an isosceles triangle are equal,' or 'If a triangle is isosceles, the angles at its base are equal'; and Euclid, like everybody else, falls as readily into the one expression as the other. Now to suppose that the consequent in this pure hypothetical is immediately given with the antecedent or follows from it directly, can amount only to saying that the predicate (in the categorical expression) is directly implied in the subject; or, in other words, that the proposition is analytic. But it is, as we know, in this case synthetic, and to bring about the synthesis, an express proof is necessary. Just so we must not think of getting the consequent of a pure hypothetical from the antecedent except in the case where there is direct implication, as 'If triangle, then trilateral'.

It is worth while adding in this connection that the other form of proposition ranged by logicians with the Hypothetical, namely the Disjunctive, may be shown to be as simple as the pure Hypothetical being in fact a special case of it. The common view is that it involves at least two hypothetical propositions, or, as some say, even four. Thus 'Either A is B or C is D' is resolved by some into the four hypotheticals—

If A is B, C is not D (1)
If A is not B, C is D (2)
If C is D, A is not B (3)
If C is not D, A is B (4)

—but the first and third of these are rejected by others, and with reason, because they are in fact implied only when the alternatives are logical opposites. The remaining propositions (2) and (4) are, however, the logical contrapositives of one another; and this amounts to saying that either of them *by itself* is a full and adequate expression of the original disjunctive. EDITOR.

Hedonism and Ultimate Good.—Any objection made by Mr. Henry Sidgwick to any statement of mine causes me great searchings of heart. When I found, therefore, from the last number of MIND (p. 36) that a passage, which he quoted from my *Introduction to Hume*, represented to him only the "metaphysical whim of a scholastic philosopher," I anxiously reconsidered it. Being still unable, however, to escape from the conclusion at which I had arrived when I wrote it, I would fain hope that, upon a fuller and clearer statement, the doctrine advanced, whether 'metaphysical' or

otherwise, may approve itself more to Mr. Sidgwick's judgment. If room for such a statement can be afforded me, I shall be very grateful.

To any one who will take the trouble to look at the whole context of the passage in question it will be clear that it relates, not to any possible sense which the phrase 'greatest sum of pleasures' may be made to bear, but to the sense which it must bear if it is plausibly to do duty as representing the 'summum bonum'. It is not of course intended to deny that it may be used to mean something which is not an 'unreal abstraction'. The question is as to its use by those writers who take it to represent the chief good or moral standard. Are they not, in so taking it, of necessity trying to give it a sense which is nonsense? It is no doubt legitimate to talk of a constant repetition of pleasure, or of being pleased as often as possible; and if, when it is said that every one desires the greatest possible sum of pleasures, no more is meant than that every one wishes to be pleased as often as possible, though the truth or importance of the proposition may be questioned, it certainly has a meaning—as much at any rate as the statement (to use Mr. Sidgwick's illustration) that a man desires 'length of days,' in the sense that he wishes to live as long as he can. To a man, however, who expressed a wish to be pleased as often as possible it would be well to point out—however stale the observation may be—that he cannot accumulate pleasures; that, if he experiences a pleasure every hour for the next 50 years, he will have no more in possession, and will be in no better state, than if he is pleased the next minute and then comes to an end. In being told this, he would be told what, I suppose, is not merely true but a truism: yet it might lead him to reflect on the wisdom of his wish. It might even lead him to ask himself whether he really entertained it or whether, in saying that he did so, he was not misinterpreting the fact either that he finds himself (if it be so) constantly desiring some particular pleasure or that he desires to be in a state of mind and character in which activity is unimpeded.

If, after thus reflecting, he were told by a moral philosopher that in wishing for any particular pleasure he is wishing for what is good, but that only in wishing to be pleased as often as possible is he wishing for the chief good, he would probably ask the philosopher two questions: (1) whether by the chief good he means a state of consciousness; to which, I suppose, the philosopher, if he has read Mr. Sidgwick on the 'summum bonum,' will reply in the affirmative; (2) how, as representing a state of consciousness, to be pleased *as often as possible* differs from the simple *to be pleased*. Supposing that, according to the laws of nature, the greatest number of experiences of pleasure possible to AB is x, AB's state of consciousness in the way of pleasure, when the full number x is completed, does not differ (except possibly for the worse through satiety) from what it was when the number stood at x—1000, or at x—50,000. If then the chief good is a state of consciousness, there is no reason for saying that it is any more attained when x has been reached than upon the first of the pleasant experiences which make up that number. There is sense, then, in

saying that each pleasure as it comes is good; but, if the good is a state of consciousness, none in saying that to be pleased any number of times or 'as often as possible' is the chief good, or more of a good than to be pleased once. A 'chief good' has no meaning unless it professes to be something of which some being can be conceived in possession, and by approximation to which the state of a moral agent may be estimated. But a chief good, that consists in being pleased as often as possible, is one of which no one can be conceived in possession and to which as a state of consciousness no one is nearer at one time than at another.

Finding it impossible to give meaning to the proposition that the chief good is the greatest possible sum of pleasure, if taken in the sense that the chief good, as a possible state of being, consists in being pleased as often as possible, the Hedonist may try either of two ways of escape. He may give up the notion that the chief good represents a state of consciousness at all, and explain the proposition as follows. 'It is open to a man according to the laws of nature to be pleased a certain number of times. The chief good would be attained if every one were pleased that number of times, and is approached in proportion as the number is more nearly reached. It serves as the moral criterion in the sense that an act is good according as it contributes to such attainment.' Thus explained the proposition would challenge further questions. (1) With what significance can we speak of a 'chief good' which, in ceasing to be regarded as a possible state of being or consciousness, ceases to be a possible object of desire? Does not the meaning, which every one recognises in the statement that pleasure is a good, in the sense that pleasure is desired, disappear when along with the substitution of 'chief good' for a good we have to substitute for pleasure the fact of having been pleased an indefinite number of times? (2) Of what value, as a criterion of action, is an end to which our approximation is wholly unascertainable except in the sense that, on the supposition of there being no pleasure after death, we must be getting nearer it every day of our lives? Of any man, clearly, till we can be 'certified how long he has to live,' we have no means of knowing whether he is near or far off the consummation of having been pleased as often as possible. Can we, however, say of any of his acts that they help him to experience, or tend to abridge, the full number of pleasures which 'nature' leaves it open to him to attain? According to the doctrine of volition which Hedonistic philosophers generally adopt it is difficult to say that any one, under all the conditions, could have gained more pleasures than his actions have brought him. At any rate, whatever our doctrine on this point, not knowing how long it may be physically possible for the man to live or how many pleasures it may be possible for him to get into a given time, we are not able to conjecture what the number of pleasures which nature allows him may be nor, in consequence, whether any action detracts from that number or no—whether in his case conduct on the plan of 'a short life and a merry one,' or on the contrary method, contributes most to the 'chief good'.

Hedonism in short, logically leaves no 'chief good' at all, but the Hedonistic moralist, not being able to do without it, is apt to seek the other way of escape to which I have referred. Retaining the view of the 'chief good' as a state of consciousness, he makes it consist not in the being pleased as often as possible, understood in the sense which we have been so far considering, but in a 'greatest possible sum of pleasures,' taken in the sense which I venture to describe as intrinsically nonsense, *viz.*, as an accumulation of enjoyments, which, all together, must be more of a good than any one of them or than any smaller sum and which thus, all together, form the 'chief good'. This is an absurdity because for the consciousness of the pleased person, or in relation to his capacity for enjoyment, in which relation alone pleasures are called good, they cannot form a sum. Each is over when the other begins. It is only as counted, not as enjoyed, that they accumulate, and when we speak of them as together constituting the chief good, we are confusing a sum of numeration with a sum of coexistence or enjoyment.

Thus to the person who says that the greatest sum of pleasures is the chief good we may offer two alternatives. Either the subject of his proposition is (as a German might say) an *Unding* or the predicate is inappropriate. If by the 'sum of pleasures' he means an accumulation of pleasures for consciousness, the absurdity lies in the subject of the proposition. Though, if there could be such a thing, there might be sense in calling it the chief good, there can be no such thing. If, on the other hand, by the 'greatest sum of pleasures' he means the being pleased as often as possible without implication of any coexistence of pleasures, he is giving sense to the subject of his proposition at the expense of what he predicates of it. There is no ground for distinction between the sum of pleasures, thus understood, as the *chief* good and any particular pleasure as good. The moral criterion has disappeared.

T. H. Green.

Happiness or Welfare.—Replies and rejoinders are, as a rule, the least profitable form of discussion; but an exception may perhaps be admitted in cases where the discussion is not a controversial one, and I therefore venture to say a few words in answer to Mr. Sidgwick's remarks in Mind, No. V., p. 34. Mr. Sidgwick puts forward a neatly constructed dilemma which, if the good old ways of philosophical discussion were still in use, might have been expanded into a sarcastic pamphlet and entitled "A Short Way with the Darwinians". He says in effect: "You maintain that the ethical end is not Happiness, a function of Pleasure, but Welfare, a function of Preservation. You likewise admit that you are not ready with a definition of Welfare: therefore either you are at sea altogether, having not even a proximate definition, or you must, notwithstanding your protests, reduce the notion of Welfare to that of 'being with the promise of future being'. But this latter alternative is absurd: on the whole, therefore, you have no standing ground." Now I do not accept the dilemma, for this

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short reason: Welfare I cannot define, Happiness (whatever strict utilitarians may feel themselves capable of accomplishing) I cannot define either. Nevertheless the terms do stand for notions which beyond question exist in our minds, and which, as I venture to think, are clear enough to be sufficient guides to action. Moreover the two notions are so far equivalent that at present the distinction between them may for all purposes of action be neglected. Hence we can accept Utilitarianism as a working method good and sufficient as far as it goes, and can afford to wait with equanimity for the time when definition shall be attainable. This is the answer to the first branch of the dilemma; we are not cast adrift, because we practically go along with Mr. Sidgwick. Indeed, our acceptance of Utilitarianism is hardly less complete than his. For Mr. Sidgwick himself, unless he has changed his mind since he wrote the last chapter of his *Methods of Ethics*, is an utilitarian on practical rather than dialectical grounds. Besides, we are in any case no worse off than the thousands of our fellow-citizens, including not a few of the most virtuous, learned, and eminent of mankind, who go through the duties of life without any moral philosophy at all. The proposed dilemma seems to me to smack a little of the fallacy that one must be a moral philosopher in order to be a good man: a fallacy which, though not of the most uncommon, I am sure Mr. Sidgwick is very far from intending to countenance.

As to 'being with the promise of future being,' it seems to me not very intelligible, and certainly inadequate, as an object of rational desire. One can easily conceive cases where the question "to be or not to be" would become at least doubtful; I mean for a society rather than for an individual. Suppose a small body of civilised men hopelessly cut off in a desert in such wise that their only chance of living is to sink to the level of savages: is it worse for them to die as civilised men than to live and be even as Bushmen? Again, is it worse for a people who have known freedom to be exterminated than to be enslaved? I do not say the answer is clear, nor stop to discuss it; a fair doubt is enough. We know, in fact, that a species or a tribe may be preserved by becoming degraded. The bare physical preservation of the species does not come up to the notion of welfare or well-being. The preservation which is the condition of Welfare is not mere persistence, but persistence by means of development in fixed directions which are given by the past experience of the race. At the same time, *well*-being demands *being*, and there is a race-instinct, *conatus*, or what else it may be called, in all living things, which in conscious agents appears as a love of life for its own sake. Better to be a thrall on earth than king of all Hades, said the men of the Homeric time; and much human action of great importance is still founded on the belief that most men at most times will choose a very hard, poor, and joyless life—in short, unhappiness—rather than no life at all. The facts may, no doubt, be stated in hedonistic language; or the hedonistic interpretation of them may even be made, as it was by Strauss, a short cut to optimism: if it is a bad world, why

do those who call it so choose to stay in it? But in this way of putting the matter the true significance of it is, I think, obscured.

Mr. Sidgwick's question may be framed, however, in a different and perhaps a more forcible manner, thus: You say that Welfare or Well-being is not Being simply, but Being with some as yet unspecified *differentia*. Is not that *differentia* really Pleasure, and your doctrine an implicit Hedonism? This seems to require farther consideration. A complete answer I am not prepared to give, my position being that no such answer is yet possible. Still, it seems to me that pleasure, however closely it may accompany the things in which we feel that happiness consists, is rather an index of well-being than well-being itself. So far as concerns the physical conditions of life, pleasure may be regarded as correlative, in its origin at least, to beneficial modes of activity. This has been well shown by Mr. Herbert Spencer, and the proof is so simple that one can repeat it in passing: a species which as a rule found its pleasure in actions hurtful to itself could manifestly have no permanent existence. And the thought seems no less applicable to the life of men in society and the conditions of their common weal. In this wise, then, Hedonism may be practically justified without regarding Pleasure as in itself the End; subject, of course, to qualifications, warnings, and regulations which would be in substance the same as those already imposed on the crude forms of Hedonism by our later utilitarians. If this is so, or in other words if, so far as the man or the society he lives in is not diseased, pleasure means, as Spinoza says, the passage to a greater perfection, then one can understand the strength of Hedonism, and be thankful for the gifts of its doctrine, without holding that Pleasure is everything. I cannot help feeling (for I dare not claim for this the consistence of settled thought) that while fullness of life is pleasant, yet it is not so much the pleasure of it that is good as the fullness of life itself. When I look forward to the hopes of mankind, the images that come before me are not of rest or "dreamful ease," but of new powers and activities; not of mere enjoyment, but of continued strife and triumph in an ever increasing mastery of things; of discovery and enterprise unceasing, of undreamt victories over nature, of beauty in the work of man's hands, and peace and wisdom in his counsels; a life, in short, greater, nobler, more harmonious than any life we yet know. All which, it may be answered, only comes to saying that activity is pleasant, and that to competent judges certain kinds of activity seem the most pleasant. I can only say again that this seems to me a forced way of stating the facts. There is another question, hardly recognised as yet, which lies at the root of the current objections to the possibility of a "Hedonistic Calculus," and gives them most of their force (though to the practical effect of those objections, I may say in passing that I quite agree with Mr. Sidgwick). Do we know after all what Pleasure is? Can we assume it to be simple or homogeneous? Is it even capable of the predicates of *more* or *less* in the same sense as quantities which can be numbered and measured? May not the *greater* and *less* of pleasure peradventure be

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only homonymous, as the Schoolmen say, with the *greater* and *less* of measurable magnitudes, in which case the whole controversy whether different kinds of pleasure are commensurable would become little more than a barren beating of the air?

These things I do not pretend to know; but there are divers reasons, as it seems to me, for suspecting that pleasure is really a very complex thing. Nay, it is very conceivable to me that, by the help of workers from the physiological side, such as Fechner and Wundt (whose work, however, I know but vaguely and by report) this may one day be matter of demonstration. If that day ever comes, I do not see how Hedonism can escape from recasting its vocabulary. This may be called a materialistic suggestion, and perhaps in one sense it is; but having, as I hope, never wavered in the following of Berkeley, I am too thorough going an immaterialist to mind that. Meanwhile this line of consideration, so far as it may be worth anything, cuts both ways. If the utilitarian has to forego his claim to achieve the exact solution of ethical problems in a manner in which nobody solves them in practice, the intuitionist must also forego such satisfaction as he can at present derive from asking the utilitarian what multiple of the pleasure of eating pastry will come out equal to the pleasure of doing a benevolent action. There are really two distinct questions: Is it possible to construct a numerical scale of pleasures? and, In the conscious choice of what to do, is the choice always between pleasures or things considered as pleasant? In this last statement, however, a rational utilitarian might fairly object to the word *considered* as too definite, too much suggesting a process of actual calculation: we should say, perhaps, *regarded*, or even *felt*. And, so far as I can see, the questions are not only distinct but perfectly independent.

On the whole, then, I submit that we must wait for more light. The conclusion may seem an idle one, but I have endeavoured, after the Platonic precept, to follow the leading of our λόγος, whithersoever it would, and thus far and no farther it has led me. No one can be more aware than myself of the loose, unsettled, unfinished character of these reflections. But I believe that in the present state of ethical definitions even loose discussion may have its uses. Let me once more repeat, to prevent misunderstanding, that in the meantime I accept Happiness, as conceived by Grote, Mr. Sidgwick, or any other rational utilitarian, as a good and valid working conception.

F. Pollock.

Dr. Carpenter's Theory of Attention.—It is curious to notice how the advocates of metempirical doctrines occasionally adduce facts which furnish the refutation of their own theories. An instance of this kind may be found in Dr. Carpenter's *Mental Physiology*.

In that treatise the state of Attention is maintained to be the mental correlate of local hyperæmia of the parts of the brain concerned in producing the mental state on which it is fixed, the hyperæmia being induced by a dilatation of the arteries supplying those parts, which dilatation is the effect of the action of the vaso-motor

nerves upon the muscular walls of the arteries. When, therefore, the Will fixes the Attention on any mental state, it does so, according to this theory, by "playing upon" the vaso-motor centre (*i.e.*, the medulla oblongata).

Now this theory is contradicted by the fact stated in the following passage taken from the same treatise (p. 127). After speaking of "that very important division of the Sympathetic which is distributed on the walls of the arteries now known as the Vaso-motor System," Dr. Carpenter says that "No motor power can be exerted through the Sympathetic System by any act of Will; but the muscular actions of many of the parts just enumerated are greatly affected by Emotional States; and this is particularly the case in regard to those of the heart and arteries".

That is to say, the power attributed to the Will (which, according to Dr. Carpenter, is an immaterial agent animating, as it were, the body) of fixing the Attention is in reality exercised only by the Emotions. If for the Emotional States we substitute their physical correlates, the above passage would thus amount to an admission of the doctrine of Automatism. For Dr. Carpenter, in his second article "On the Doctrine of Human Automatism," contributed to the *Contemporary Review* for May, 1875, himself resolves the control of the Will over conduct into its control over the Attention.

JNO. T. LINGARD.

X.—NEW BOOKS.

Die Ethik des Spinoza im Urtexte. Herausgegeben, etc, von HUGO GINSBERG. Leipzig, 1875. Pp. lvi, 299.

Der Briefwechsel des Spinoza im Urtexte. Herausgegeben, etc, von HUGO GINSBERG. Leipzig, 1876. Pp. lxxxix, 252.

From the very useful and pleasant introductions with which they are accompanied, these volumes are well worth the attention of the student. Dr. Ginsberg is not afraid of quoting, and presents us with copious extracts from Wachter (an interesting 17th century critic), Joel, Trendelenburg, Erdmann, Kuno Fischer, and Sigwart. The first volume contains an introduction, a bibliographic summary, and the texts of the preface to the *Opera Posthuma* and of the *Ethica*. In the Introduction the life of Spinoza is briefly summed up. The latest researches are kept well in view;—the conditions of culture in the colony of Portuguese Jews at Amsterdam are sketched in a lively manner, and the synagogue is defended from the charge of barbarous fanaticism in the matter of the excommunication. There is a highly interesting excerpt from the Memoirs of one Gottlieb Stolle, who was in Amsterdam in 1703, and busied himself in collecting "news" concerning Spinoza. The reader will probably feel that the wondrous gossip of Stolle's "old man" is by no means too lightly treated; and that a witness who draws for us a picture of the author of the *Ethica*,

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nicely dressed, with a sword by his side, indulging in his two cans of wine, and in visits "*ad virgo*" *(sic!)* is unworthy of serious attention. A suggestive review and criticism of the cardinal points of the great thinker's system closes the Introduction to the first volume.

The second contains another introduction, a summary of the "groups of correspondence," a collection of biographical notices, the "*argumenta*" to the Letters (taken from Von Murr's *Adnotationes*), the text of the Letters, and an appendix consisting of the *Vie de Spinoza* of Colerus, with a Latin translation of the edict of excommunication. The Introduction gives an extract from Trendelenburg's essay on the correspondence as amplified by the new matter published by Van Vloten in his *Supplementum* in 1862. There is a thorough discussion, by Sigwart and by Trendelenburg, of the date of composition of the *Ethica*. A review of the passages of the correspondence that are important for purposes of study, gives occasion for the introduction of an instructive excursus on the doctrine of the Attributes, by Erdmann, Trendelenburg, and Kuno Fischer; and this is followed by much excellent discussion of Spinoza's teaching, metaphysical, psychological, and ethical. Dr. Ginsberg has probably done wisely in rejecting Bruder's division of the letters into paragraphs: which certainly lends to Spinoza's letters a false air of pedantry that by no means belongs to them. The Biographical Notices are almost all that is wanted; the name of Leibnitz, however, is absent from them. The collection of *Argumenta*, which are given in a body, and not dispersed over their respective letters, is very convenient.

Unfortunately, the editing of the texts is most marvellously careless. The three or four pages of errata give but a very inadequate account of the misprints. Ep. xxxviii is not given in the original Dutch, as it ought to be given in any edition that lays claim to completeness. This is perhaps pardonable; but to have reprinted Ep. xlix, as it stands in former editions, without noticing the interesting variations of the MS. of the letter as published by Van Vloten, is unpardonable. The treatment of Ep. xxvi is quite inexcusable. Dr. Ginsberg has copied literally the later paragraphs in which Van Vloten presents us with the text of his MS. *(Supplementum* p. 296.), and has thus succeeded in omitting the seventeen important lines that make up the two concluding paragraphs of the letter in Bruder's edition;—the omission being indicated only by an useless and unintelligible "*etc.*" From Ep. xxvii, he has omitted the not uninteresting initial paragraph furnished by Van Vloten.

If the student will buy these inexpensive volumes, and have the Introductions bound up together, he will find them a very handy book of reference. ARTHUR BOLLES LEE.

A Discourse on Truth. By RICHARD SHUTE, M.A., Senior Student and Tutor of Christ Church, Oxford. London: King & Co., 1877. Pp. 299.

This book starts from the premisses supplied by Locke and Hume, and by taking them in connection with the conception of adaptation to

environment, draws conclusions opposed to Mill's law of the uniformity of Nature, and doctrine of the functions and value of Syllogism. Truth is a general name for the way in which a man adapts himself to circumstances, and by speech helps others to do so. The sixth chapter—'Syllogism and Deductive Reasoning'—is the central point of the book; 'Definition,' 'Cause,' and 'Induction' lead up to it. The chief function of Induction is to furnish us with formulæ for communicating useful beliefs or rather tendencies to believe when occasion presents itself. Deduction is a distinct process of discovery. Mill in criticising the Syllogism limited himself to the unimportant deductions where the middle term is a natural kind like *Man*, which is naturally suggested by *Cæsar*. In a legitimate syllogism the extremes must not necessarily suggest the middle. The middle term must be an artificial class-name. *Whale, Mammal, Lungs*—is a legitimate deduction, because *Whale* does not naturally suggest *Mammal*, as *Cæsar* does *Man*. From this use of artificial class-names the author goes on to treat of Language in relation to Thought, and of 'Necessary Truths' which he declares to be a self-contradictory conception. An 'Epilogue' is directed against Rational Religion which "makes no demands upon that Faith which is the evidence of things not seen".

Mr. Sidgwick's Hedonism: An Examination of the main argument of the *The Methods of Ethics*. By F. H. Bradley. London: King & Co., 1877. Pp. 64.

The author in Part I. seeks "to help the reader to master the most prominent conceptions of the book, and to bring to light the obscurity and ambiguous nature of the leading terms, and the equivocal character of the main thesis". In Part II. he endeavours to show that the proof of the thesis offered is unsatisfactory. In Part III. he tries to exhibit the real nature of the Ethical Science which is proposed, with some of the objections to which it lies open; also, he discusses the problem, partly moral and partly theological, which is raised at the end of Mr. Sidgwick's work. The author's final judgment upon the work is thus expressed: "I can find no unity of principle which holds its parts together. Rather I seem everywhere to have seen an attempt to unite irreconcileable points of view, which has failed because the criticism which should first have loosened their opposition, has been wanting, Hedonism and Individualism on the one side, and abstract Rationalism on the other, have met, but have not come together, and the result is a mere syncretism, a mechanical mixture of both." The "failure to take account of the views most opposed to traditional English doctrine has been at least one cause of the uncertain handling of leading conceptions, and the confusion in the result".

History of European Morals from Augustus to Charlemagne. By William Edward Hartpole Lecky, M.A. 3rd Ed. Revised. 2 vols. London: Longmans & Co., 1877. Pp. 468, 407.

This well-known book has been carefully revised since the last

edition, the author being much aided in his task by his German translator, the deceased D. H. Jolowicz. The controversial first chapter on 'The Natural History of Morals' now appears on the one hand shorn of a few lines, and on the other increased by three or four short passages in elucidation or support of the author's former positions.

Der Ursprung der Sprache, im Zusammenhange mit den letzten Fragen alles Wissens. Von Dr. H. Steinthal. 3te Aufl. Berlin, Dümmler, 1877. Pp. 374.

This edition is more than twice, almost thrice, the size of the former one (1858). Continuing his critico-historical treatment of linguistic theories which formerly did not extend beyond Heyse and Renan, the author now passes under review the labours of L. Geiger (at great length), his own former theory as maintained in the days before the revolution wrought by Darwin and others in natural history, the views of Jäger, of Darwin himself and of Caspari. The book has thus become a real compendium of all important theories that have been held concerning the origin of language, viewed in relation to the ultimate questions of metaphysical and religious philosophy. In a final chapter the bearings of the doctrine of Evolution upon linguistic science are specially considered.

Kant und Newton. Von Dr. Konrad Dieterich. Tübingen: H. Laupp. 1877. Pp. 294.

This essay, in itself not long, aims at accomplishing one part of a task left unperformed or insufficiently performed by Kant's expositors —namely, to trace with careful detail the connection between his physical and metaphysical investigations on the one hand and between his researches in culture-history and his ethical philosophy on the other. The second part of the task is reserved for another book soon to appear under the title of *Kant und Rousseau.* The author's view of Kant's relation to Newton is that while Newton had explained according to mechanical laws the cosmical system as it is, he should in like manner explain how it came to be. "Newton was the good genius who stood by the cradle of his scientific development and hovered as guardian over the progress of his philosophical thought." The supporting citations, filling half the volume, are very complete and therefore valuable as a collection.

Denken und Wirklichkeit. Versuch einer Erneuerung der Kantischen Philosophie. Von A. Spir. 2te umgearbeitete Auflage. 2 vols. Leipzig: J. G. Findel, 1877. Pp. 386, 292.

This is a second edition of a work that appeared in 1873, and is issued before the former one is quite exhausted, because it is a matter of conscience with the author to give his ideas the greatly improved exposition that he now offers. The book possesses a special interest for English readers, by reason of the author's intimate acquaintance with

all the recent phases of English philosophy. He recognises in the Experientialism of English thinkers a genuine attempt to solve the question of Philosophy in the spirit of Kant's criticism, though he himself sides with Kant in declaring for *a priori* elements in knowledge, and these (he maintains) of a kind not to be explained by the doctrine of heredity. Like most other Kantians, however, he is by no means satisfied with the master's actual scheme of the *a priori* elements, and he seeks to devise a better. His most characteristic positions have already been indicated in MIND (No. III. p. 420, as also No. IV. p. 557), and more cannot now be added in this short announcement, but the book is recommended to the attention of philosophical students.

Logique Algorithmique. Essai sur un Système de Signes appliqué à la Logique, avec une Introduction où sont traitées les questions générales relatives à l' emploi des Notations dans les Sciences. Par J. DELBOEUF, Professeur à l' Université de Liége. Liége, Bruxelles. 1877. Pp. 99.

This essay, first published in three numbers of the *Revue Philosophique* towards the end of last year, was announced by the author as far back as the year 1865 in the preface to his remarkable *Essai de Logique Scientifique*. He had then settled with himself the principle of his logical calculus, and done so in ignorance of Boole's earlier labours; nor, when he returned some months ago (from his psycho-physical investigations) to the task of carrying it out, had he been able in the interval to make himself acquainted with the various English attempts to establish an algorithmic logic, though he now makes supplementary references to some of them. M. Delboeuf's symbolism has some similarity to that suggested by Mr. Murphy in the last number of MIND and expounded a year or two earlier by him in a paper on 'The relation of Logic to Language,' but it is separated from this by important differences, and his whole treatment of the subject is marked by much originality. Indeed it may be doubted whether any one has yet sought to devise a logical calculus with so true a grasp as M. Delboeuf has of the relation between logic on the one hand and mathematics and the sciences generally on the other. The first two parts of the present essay, dealing with the question of the general character of a calculus and the possibility of having one in logic, are full of instruction even for those who may attach less importance than he does to the realisation of the possibility. At the same time he cannot be charged with exaggerating the merely practical value of his invention; for he adds to the third part, in which it is wrought out at length, a short fourth part on the question of utility, in which he allows that it is of service in the solution of very simple questions only. "When the reasoning is brought to a series of syllogisms, it can undoubtedly assign the possible consequences, or indicate rapidly and surely the true conclusion; but the true difficulty to be contended with lies in the translation of the reasoning into conclusive syllogisms."

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Logische Studien. Ein Beitrag zur Neubegründung der Formalen Logik und der Erkenntnisstheorie. Von FRIEDRICH ALBERT LANGE. Iserlohn: J. Baedeker. 1877. Pp. 149.

This work, completed as it stands three weeks before the lamented author's death, is but a first part that was to be followed by a second. Its fundamental conception is that Logic can have no other firm foundation than the laws that arise from the consideration of Space and of Movement in space. 'Theory of Cognition,' which comes into the second title, is taken by Lange as the doctrine of human knowledge based on Logic, Metaphysic, and Psychology, and therefore having no strict unity of principle. The science resolves itself into (1) the pure *à priori* investigation of the postulates presupposed in knowledge (after the manner of Kant), and (2) the psychological doctrine of cognition, which is empirical; while these two divisions presuppose an exact investigation of logical forms. The contents of Part I. are: (1) Formal Logic and Theory of Knowledge, (2) Morality of Judgments, (3) The Particular Judgment and the Doctrine of Conversion, (4) Syllogistic, (5) The Disjunctive Judgment and the Elements of the Doctrine of Probability, (6) Space, Time, and Number. A note remains of the contents of Part II. that was next to be written: (7) The Psychology of Thought, (8) Grammar and Logic, (9) Induction, (10) The Numerical Method and the law of large Numbers, (11) The Historico-Critical Method, (12) Idea of a Comparative Methodology of Science, with appendix to follow on Choice and Voting.

The Physical Basis of Mind. (Being the Second Series of *Problems of Life and Mind.*) By GEORGE HENRY LEWES, with woodcut illustrations. Trübner & Co.

The following extracts are given from the Preface to Mr. Lewes's new volume, which will very shortly appear:—

"The title indicates that this volume is restricted to the group of material conditions which constitute the organism in relation to the physical world—a group which furnishes the data for one half of the psychologist's quest; the other half being furnished by historical and social conditions. The human mind, so far as it is accessible to scientific inquiry, has a twofold root, man being not only an animal organism but an unit in the social organism; and a complete theory of its functions and faculties must therefore be sought in this twofold direction. . . .

The volume contains four essays. The first, on *The Nature of Life*, deals with the speciality of organic phenomena, as distinguished from the inorganic. It sets forth the physiological principles which Psychology must incessantly invoke. . . .

The second essay is on the *Nervous Mechanism*, setting forth what is known, and what is inferred, respecting the structure and properties of that all-important system. If the sceptical and revolutionary attitude in presence of opinions currently held to be established truths, surprises or pains the reader unprepared for such doubts, I can only ask him to submit my statements to a similar scepticism, and confront them with the ascertained evidence. After many years of laborious investigation

and meditation, the conclusion has slowly forced itself upon me that on this subject there is "a false persuasion of knowledge" very fatal in its influence, because unhesitatingly adopted as the ground of speculation both in Pathology and in Psychology. This persuasion is sustained because few are aware how much of what passes for observation is in reality sheer hypothesis. I have had to point out the great extent to which Imaginary Anatomy has been unsuspectingly accepted; and hope to have done something towards raising a rational misgiving in the student's mind respecting "the superstition of the nerve-cell"—a superstition which I freely confess to have shared in for many years.

The third essay treats of *Animal Automatism*. Here the constant insistance on the biological point of view, while it causes a rejection of the mechanical theory, admits the fullest recognition of all the mechanical relations involved in animal movements; and thus reconciles the contending schools. In this essay I have also attempted a psychological solution of that old and much debated question, the relation of Body and Mind.

In the final essay the *Reflex Theory* is discussed; and here once more the biological point of view rectifies the error of an analysis which has led to the denial of Sensibility in reflex actions, because in that analysis the necessary presence of the conditions which determine Sensibility has been overlooked. . . .

According to my original intention this volume was to have included an exposition of the part I conceive the brain to play in physiological and psychological processes, but I have determined to postpone that until it could be accompanied by a survey of the psychological processes which would render the exposition more intelligible."

German Pessimism. By JAMES SULLY. King & Co. [Will appear shortly.]

"Its twofold aim is a critical estimate of the pessimists' doctrine of life and an explanation of the origin and apparent vitality of this belief. Accordingly, before entering into an exposition and criticism of the modern philosophic systems worked out by Schopenhauer and his successors, the writer reviews the history both of pessimism and of its correlative in their unreasoned or popular and their reasoned or scientific forms. The systems of Schopenhauer and Hartmann are then expounded and examined, a separate chapter being devoted to the metaphysical, the scientific, and the empirical basis of the doctrine. Special attention is given to the pessimists' conception of the physical world (as developed by Hartmann), and to their view of the processes of volition, and of the relation of feeling (pleasure and pain) to will. Accepting the Hedonistic basis of value adopted by the pessimists, the author proceeds to re-discuss the question raised by optimism and pessimism. After an attempt to construct an idea of happiness on a basis of pleasurable feeling, he inquires first of all into the present reality of happiness, and secondly into the bearing of progress on the realisation of happiness. A concluding chapter investigates the sources of optimism and pessimism, both in the varying disposition or mental temperament and in the circumstances (variable and constant) of human life, discusses the special influences which appear to support pessimism at the present day, and finally seeks to assign to this doctrine its legitimate rank among the varying tendencies of practical thought."

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Natural Law: An essay in Ethics. By EDITH SIMCOX. Trübner and Co. [Will appear shortly in a series to be entitled "English and Foreign Philosophical Library".]

"The essay discusses the source and nature of the human sense of obligation—legal, moral and religious. The object proposed is to trace the common elements in laws "properly so called," the moral law generally acknowledged, and the scientific laws of nature. A true law is defined as the statement of constant relations, such constancy following necessarily from the nature of the things related. The argument is that the sense of obligation or bondage to law = the consciousness of subjection to a real, regular pressure, in certain fixed directions; that men are subject to such pressure from three different sources, resulting in a (general) necessary obedience to the injunctions of law, morality and religion. Positive or customary law states the obligations imposed on men by their objective relations with other men; morality, the obligations imposed on them by their own moral and intellectual nature in the actual circumstances of society; religion, the obligations imposed on them by their spontaneous feelings towards the most abstract tendencies of universal nature. As to the nature of the obligations imposed by the moral law, three kinds of good are distinguished: Natural Good, Sensible Good or Pleasure, Moral Good. The common elements in different forms of the religious sentiment are considered; and finally the natural history of altruism, the natural sanctions of the moral law, the conditions of social and individual perfection."

XI.—NEWS.

The subscriptions for the Spinoza Memorial to be erected at the Hague had in January reached the sum of about £900, and the Committee, seeing its way to the execution of the project, then announced that it would shortly throw open the design of the memorial to international competition. On the 21st February, the two-hundredth anniversary of the day of Spinoza's death, a meeting was held at the Hague, and an oration in French was delivered by M. Renan. The address is now printed as a pamphlet, and the proceeds of the sale will be added to the subscription.

Mrs. Grote has just made over to the authorities of University College the sum of £6000, which her husband, the late President of the College and one of its original founders, bequeathed for the eventual endowment of the Chair of Philosophy of Mind and Logic. The first condition of the bequest was prescribed by Mr. Grote in his Will as follows: "I earnestly desire that the principle distinctly recognised when University College was founded, as being of essential and permanent importance, that is to say abstinence from all religious teaching and neutrality between all varieties of opinion in matters of religion, shall at all times be faithfully and exactly carried out, and I consider it inconsistent with that principle that the Professorship of Philosophy of Mind and Logic should be held by a minister of the

Church of England or of any other religious persuasion, who shall at any time have undertaken as his professional duty to inculcate the particular creed or doctrines of the Church or party to which he belongs. If therefore any such minister should at any time or times be appointed by the Council to the Professorship of Philosophy of Mind and Logic, or if any Professor of Philosophy of Mind and Logic, having been when appointed a layman, shall subsequently take orders or become a minister of any such creed or doctrines as aforesaid, I direct that no payment shall be made to him of the present endowment, but that the annual income when received shall as far as the law will admit be re-invested and added to the principal until the time when the said Professorship shall be occupied by a layman."

The fourth edition of Comte's *Philosophie Positive*, recently announced, has now appeared, with a second Preface from M. Littré which may be read in the January number of the journal conducted by himself and M. Wyrouboff. M. Littré professes himself still the disciple that he was twelve years ago when he wrote his preface to the second edition, and that he has been for the last forty years. He contrasts with the fate of books of science which become antiquated in ten years the fortune of Comte's philosophical work which the years make only more widely known, and he claims for it the unique character of remaining true after the scientific discoveries of the last half century just as it was when written—so completely did it grasp the spirit of scientific inquiry enthroned for all time to come. According to M. Littré, the peculiarity of the Positive Philosophy is that it recommends itself on different sides alike to minds accustomed to the rigorous methods of science and to the untrained who find in it a response to their social aspirations. As regards its origin, he does not pretend that it was the creation of one man: "it was prepared in every way; the elements that could produce it, the *plasma* whence it sprung, were then full of life and fecundity". Neither does he put out of sight the cognate but independent doctrine of English thinkers; respecting which, however, he maintains his formerly declared opinion that it errs in making psychology, rather than the hierarchy of the positive sciences, the basis of philosophy. For the issue of the conflict between the two conceptions he is content to wait upon the progress of psychical physiology. "The more it becomes clear that psychical physiology is the biological equivalent of the traditional psychology, more or less modified by the experimental method which the English philosophers apply, the more it will become certain that the study of the psychical faculties is only, as Auguste Comte proclaimed it, a tributary of the general doctrine, not to be taken for its source."

In a later number of his journal (March-April) M. Littré writes a few pages in memory of Madame Comte who died some weeks ago. While confining himself mainly to a statement of what she did since

Comte's death for the cause of the Positive Philosophy, he gives the impression of a superior intellect and character of no common firmness and elevation. It was she who, in 1860, determined to have her husband's biography written; and M. Littré tells how, when she bore down his reluctance to add this burden to the labour of his Dictionary, he used for a whole year, regularly at the stroke of midnight, to put away his other papers and write at his *Auguste Comte et la philosophie positive* for three hours long into the morning. It was she who next would not rest till the *Cours de philosophie positive*, which had long been out of print, was made accessible to readers in a new edition, and she lived long enough to be rewarded by the call for two editions more. She again it was who exacted from the hard-worked disciple his defence of Comte against Mill's strictures in 1865; and then followed her idea of founding a periodical organ for the spread of the cause, which ultimately was realised by her securing the co-operation of M. Wyrouboff. Last year she urged her friends to take advantage (like the Catholics) of the new freedom of instruction in France, and found a school of the positive sciences; and one notion more she had which M. Littré says he would be tempted to carry into effect were he ten years younger—that of establishing a cheap journal for the common people to judge political events and social questions from the point of view of the Positive Philosophy. The record proves her unflinching devotion to what she deemed the true philosophic fame of her husband, and M. Littré for his part gratefully acknowledges the service she did to himself in laying tasks upon him, which, if they had not been performed in the midst of his lexicographic labours, he should hardly have had strength or courage left to essay when at last his Dictionary was completed. He is now in his 77th year.

An English translation of Prof. Barzellotti's excellent treatise *La Morale nella Filosofia Positiva* (Florence, 1871)—referred to in Mr. Spencer's *Study of Sociology* (p. 229)—is being prepared in America by Signor E. Gandolfo and Miss J. L. Olcott of Brooklyn. By 'Positive Philosophy' the author means the doctrines of English thinkers—chiefly the two Mills, Prof. Bain, and Mr. Spencer.

Dr. David Asher of Leipsic first published in 1865, and then in 1871 reprinted (with some other papers, under the title *Arthur Schopenhauer Neues von ihm und über ihn*, pp. 111), a series of twenty-four letters from Schopenhauer to himself, which seem to have escaped the notice of recent English writers. The letters, extending from 1855 till within a few weeks of Schopenhauer's death in 1860, are extremely characteristic of the man.

Baron von Reichlin-Meldegg, the aged Professor of Philosophy at Heidelberg, has just died. A correspondent says: "His philosophical position was a modified Kantism; and unlike his colleague, Prof. Kuno Fischer, he believed in the *second* edition of Kant's *Kritik*—

always declaring that he could not see why Dualism was inconsistent with the laws of the human understanding. His system of Logic, based on this view, follows the direction of Schleiermacher and Ueberweg, and presupposes a correspondence between things and representations of things. He had a most stupendous memory: he could recite whole pages of Greek, Hebrew, Latin, French, English, Spanish, and Italian authors; all the titles of books with their peculiar idioms and their dates, dates of historical events and of events occurring in special biographies; numbers of chapters and pages of particular passages in books, &c. In his lectures on *Faust* he would recite the whole of both parts by heart, now and then stopping to comment upon some passages, resuming the recital where he had left off. On the other hand, it cannot be said that his works are strongly marked by independence or novelty. Besides numerous historical, biographical, and theological works, he wrote on *Faust; Geschichte des Christenthums* (1836); *Psychologie des Menschen mit Einschluss der Somatologie u. der Lehre von den Geisteskrankheiten* (1838); *System der Logik, nebst Einleitung in die Philosophie* (1870). In private life he was a man whom one could not help respecting and loving."

W. Volkmann Ritter von Volkmar, Professor of Philosophy at Prague, and author of the *Lehrbuch der Psychologie* (Herbartian), &c., died on the 14th January last.

Léon Dumont, author of *Theorie Scientifique de la Sensibilite* (reviewed in MIND, No. III., p. 399) and of an earlier work *Sur les causes du Rire*, died at the early age of 40, on the 17th January. He was one of the most active and intelligent spirits of the younger generation of French thinkers.

The *Philosophische Monatshefte* (whose earlier fortunes have been told in MIND No. I., p. 141) has passed with the new year into the hands of Prof. C. Schaarschmidt of Bonn as editor, Dr. Ascherson of Berlin continuing as before to supply the very carefully compiled Bibliography which has for some years been a notable feature of the journal. The new editor, who is best known by his work on the Platonic canon, starts with the promise of strong support from his professional brethren. The journal will be published as before by E. Koschny of Leipsic, but under new and more liberal conditions.

REVUE PHILOSOPHIQUE. 2me Année No. I. H. Taine—'Les Vibrations cérébrales et la Pensée.' E. v. Hartmann—'Un nouveau disciple de Schopenhauer, J. Bahnsen.' P. Janet—'Qu'est-ce que l'Idéalisme?' A. Herzen—'De l'échauffement des centres nerveux par le fait de leur activité!' Notes et Documents—'Une Idole moderne,' par A. Main. Analyses et comptes-rendus—H. Spencer, *Principles of Sociology* (Tome I); F. Brentano, *La civilisation et ses lois*; Du Bois Reymond, *Darwin*

versus Galiani; Goering, *Raum und Stoff;* Basevi, *Scienza della Divinazione;* P. d'Ercole, *La pena di Morte, &c.;* Caroli, *Logica con nuovo metodo;* Michaud, *De l'Imagination.* No. II. Ch. Lévêque—'François Bacon métaphysicien.' E. de Hartmann—'Un nouveau disciple de Schopenhauer, J. Bahnsen' (fin). G. Compayré—'L'éducation d'après Herbert Spencer.' Analyses et comptes-rendus—D. Ferrier, *The functions of the Brain;* Bridel, *La philosophie de la religion de Kant;* Swientochowski, *Essai sur l'origine des lois morales.* No. III. J. Delbœuf—'La loi psychophysique: Hering contre Fechner.' F. Bouillier—'La Règle des mœurs.' L. Liard—'La Logique de M. Stanley Jevons.' Analyses et comptes-rendus—v. Hartmann, *Kritische Grundlegung des transcendentalen Realismus;* Angiulli, *La Pedagogia, lo Stato e la Famiglia;* J. Soury, *Les Religions, les Arts, la Civilisation de l'Asie antérieure et de la Grèce;* J. Baissac, *Les Origines de la Religion.*

La Critique Philosophique.—Vme Année, Nos. 46-52, VIme. Année, Nos. 1-7. C. Renouvier—'Les labyrinthes de la métaphysique: L'infini et le continu, V. Cousin, M. Vacherot (46), Les physiciens et les chimistes (49), Les mathématiciens (2), La méthode dite des limites (7); Le 'rêve' de D'Alembert et les 'rêves' de M. Renan (51). Petit traite de morale à l'usage des écoles primaires laïques (*Suite,* 46-8, 50, 52, 1-3, 5-7.)

La Filosofia delle Scuole Italiane Vol. XIV. Disp. 3. L. Ferri—'La Coscienza.' T. Mamiani—'Filosofia della religione.' A Martinazzoli—'Della morale disinteressata.' Manzoni—'Il nuovo criticismo di C. Renouvier.' T. Mamiani—'Di una insufficiente filosofia della storia.' Bibliografia, &c. Vol. XV. Disp. 1. F. Bonatelli—Un escursione psicologica nella regione delle idee. T. Mamiani—'Filosofia della religione.' N.N.—'Appunti sul Darvinismo.' F. Bertinaria—'Ricerca se la separazione della Chiesa dallo Stato sia dialettica ovvero sofistica.' Collyns Simon—'La religione e la metafisica.' C. Cantoni—'I precursori di Kant nella filosofia critica.' T. Mamiani—'Carteggio.' Bibliografia, &c.

Vierteljahrsschrift für Wissenschaftliche Philosophie.—I. Heft ii. Fr. Paulsen—'Ueber die principiellen Unterschiede erkenntnisstheoretischer Ansichten.' M. Heinze—'Der Idealismus Friedrich Albert Lange's.' O. Liebmann—'Raumcharakteristik und Raumdeduction.' A. Riehl—'Der Raum als Gesichtsvorstellung.' W. Windelband—'Ueber die verschiedenen Phasen der Kantischen Lehre vom Ding-an-sich.' E. Zeller—'Antwort an Herrn Professor Dr. J. H. von Fichte.' Recensionen—Schmitz-Dumont, *Zeit und Raum;* Erdmann, Martin Knutzen, &c.; Ribot, *die Erblichkeit.* Selbstanzeigen.

Philosophische Monatshefte.—Bd. XII. Heft 10. Sup. Opitz—'Realismus und Idealismus.' H. Vaihinger—'Zur modernen Kantphilologie.' E. Bratuscheck—'Kritischer Jahresbericht.' (Forts.) Bibliographie. Schlusswort. Bd. XIII. Hefte 1,2. C. Schaarschmidt—A. Horwicz, *Ueber Wesen und Aufgabe der Philosophie.* R. Hasenclever—'Zur Analysis der Raumvorstellung.' C. S. Barach—'Ueber die Philosophie des Giordano Bruno.' J. H. Witte—Fr. Harms, *Die Philosophie seit Kant.* C. Schaarschmidt—G. V. Schiaparelli, *Die Vorläufer des Copernikus im Alterthum.* Prof. Lutterbeck—H. Thiersch, *Ueber den christ Staat.* Dr. Bertling—Oscar Schmidt, *Die naturwiss. Grundl. der Phil. des Unbewussten,* Bibliographie, &c.